Keywords in Context for the NAG C Library, Mark 5

Delivert estimation and line and line	- here least a description of the standard description	07.1
Robust estimation, median, median	absolute deviation, robust standard deviation ACF: See Autocorrelations	g07dac
ODEs, IVP,	Adams method, until function of solution is zero,	d02cjc
	Adams method with root-finding	d02qfc
	adaptive, finite interval, strategy due to Piessens and	d01sjc
· · · · · · · · · · · · · · · · · · ·	adaptive, finite interval, method suitable for oscillating adaptive, finite interval, allowing for singularities at	d01skc d01slc
	adaptive, infinite or semi-infinite interval	d01smc
1-D quadrature,	adaptive , finite interval, weight function $\cos(\omega x)$	d01snc
	adaptive, finite interval, weight function with end-point	d01spc
	adaptive, finite interval, weight function $1/(x-c)$, adaptive, semi-infinite interval, weight function $\cos(\omega x)$	d01sqc d01ssc
	adaptive, semi-minute interval, weight function $\cos(\omega x)$ adaptive quadrature over hyper-rectangle	d01ssc d01wcc
	Add a new variable to a general linear regression model	g02dec
	Add/delete an observation to/from a general linear	g02dcc
	Airy function $\operatorname{Ai}(x)$ Airy function $\operatorname{Bi}(x)$	s17agc
	Airy function $\operatorname{Air}(x)$	s17ahc s17ajc
	Airy function $\operatorname{Bi}'(x)$	s17akc
Airy function	$\operatorname{Ai}(x)$	s17agc
Airy function		s17ajc
weight function with end-point singularities of	Allocates observations to groups according to selected	d01spc g03dcc
	Allocates memory to transfer function model orders	g13byc
Multivariate time series, cross	amplitude spectrum, squared coherency, bounds,	g13cec
	Analysis of variance, randomized block or completely	g04bbc
	Analysis of variance, complete factorial design,	g04cac
Performs principal component Performs canonical variate	•	g03aac g03acc
Performs canonical correlation	•	g03acc g03adc
	analysis model, factor loadings, communalities and	g03cac
covariance matrices and matrices for discriminant	-	g03dac
Hierarchical cluster		g03ecc
<i>K</i> -means cluster Performs principal coordinate	analysis analysis, classical metric scaling	g03efc g03fac
	Approximation	e02
	Approximation of special functions	S
	arc tanh x	s11aac
	$ \begin{array}{l} \operatorname{arc} \sinh x \\ \operatorname{arc} \cosh x \end{array} $	s11abc s11acc
Safe range of floating-point		X02AMC
Parameter of floating-point	$\mathbf{arithmetic} \mod b$	X02BHC
Parameter of floating-point		X02BJC
Parameter of floating-point Parameter of floating-point	·	X02BKC
0.1	arithmetic model, ROUNDS	X02BLC X02DJC
Univariate time series, sample		g13abc
	autocorrelations from autocorrelations	g13acc
Least-squares cubic spline curve fit,	-	e02bec
Least-squares surface fit by bicubic splines with Least-squares surface fit by bicubic splines with	automatic knot placement, data on rectangular grid	e02dcc e02ddc
Parameter of floating-point arithmetic model,		X02BHC
	B-splines	e02
Matrix-vector product, real rectangular		f06pbc
Matrix-vector product, real symmetric		f06pdc
Matrix-vector product, real triangular System of equations, real triangular		f06pgc f06pkc
Matrix-vector product, complex rectangular		f06sbc
Matrix-vector product, complex Hermitian		f06sdc
Matrix-vector product, complex triangular		f06sgc
System of equations, complex triangular		f06skc f01mcc
of real symmetric positive-definite variable. Solution of real symmetric positive-definite variable.	bandwidth matrix bandwidth simultaneous linear equations (coefficient	f01mcc f04mcc
· -	BDF method, until function of solution is zero,	d02ejc
Kelvin function		s19abc
Kelvin function	ber x	s19aac
	D $=$ $=$ 1 from etting $V(x)$	- 4 77
	Bessel function $Y_0(x)$ Bessel function $Y_1(x)$	s17acc s17adc

	Bessel function $J_0(x)$	s17aec
	Bessel function $J_0(x)$	s17aec s17afc
Modified	Bessel function $K_0(x)$	s18acc
	Bessel function $K_1(x)$	s18adc
	Bessel function $I_0(x)$	s18aec
	Bessel function $I_1(x)$	s18afc
	Bessel function $e^x K_0(x)$ Bessel function $e^x K_1(x)$	s18ccc s18cdc
	Bessel function $e^{- x }I_0(x)$	s18cec
	Bessel function $e^{- x }I_1(x)$	s18cfc
probability density function probabilities for the	beta distribution	g01eec
Computes deviates for the		g01fec
Generates a vector of pseudo-random numbers from a	beta distribution Bi-CGSTAB method, preconditioner computed by	g05fec f11dcc
• • • •	Bi-CGSTAB method, Jacobi or SSOR preconditioner	f11dcc f11dec
· · · · ·	bicubic spline, data on rectangular grid	e01dac
	bicubic splines with automatic knot placement, data on	e02dcc
- •	$\mathbf{bicubic}$ splines with automatic knot placement,	e02ddc
	bicubic spline at a vector of points	e02dec
Evaluation of a fitted	bicubic spline at a mesh of points	e02dfc
Fits a generalized linear model with	Binomial distribution function	g01bjc g02gbc
vector for generating pseudo-random integers,		g02gbc g05edc
0 0 I	bivariate Normal distribution	g01hac
squared coherency, bounds, univariate and	bivariate (cross) spectra	g13cec
time series, gain, phase, bounds, univariate and		g13cfc
Airy function		s17ahc
Analysis of variance, randomized	B (x) block or completely randomized design, treatment	s17akc g04bbc
Integer programming problem, branch and		h02bbc
	boundary value problem, finite difference technique	d02gac
ODEs,	boundary value problem, finite difference technique	d02gbc
ODEs, general nonlinear	boundary value problem, finite difference technique	d02rac
maniahlaa awaai Namtan alganithaa ainanla	Bounded influence: See Robust	-04 <i>i</i> be
variables, quasi-Newton algorithm, simple variables, quasi-Newton algorithm, simple		e04jbc e04kbc
	bounds , using 1st and 2nd derivatives (comprehensive)	e041bc
	bounds , impulse response function and its standard	g13cgc
Multivariate time series, gain, phase,	bounds, univariate and bivariate (cross) spectra	g13cfc
• •	bounds, univariate and bivariate (cross) spectra	g13cec
eigenvectors of real nonsymmetric matrix (Black of complex nonsymmetric matrix (Black	· · · · · · · · · · · · · · · · · · ·	f02ecc
of complex honsymmetric matrix (Black method, preconditioner computed by f11jac (Black		f02gcc f11jcc
method, Jacobi or SSOR preconditioner (Black	· · · · · · · · · · · · · · · · · · ·	f11jec
Integer programming problem,		h02bbc
allowing for singularities at user-specified		d01slc
Zero of continuous function in given interval,	0	c05sdc
	canonical variate analysis canonical correlation analysis	g03acc g03adc
quadrature over hyper-rectangle, Monte	5	d01xbc
	Cauchy principal value (Hilbert transform)	d01sqc
real sparse unsymmetric linear system, RGMRES,	${\bf CGS}$ or Bi-CGSTAB method, preconditioner computed	f11dcc
real sparse unsymmetric linear system, RGMRES,		f11dec
Evaluation of fitted polynomial in one variable from	- ,	e02aec
	Check user's function for calculating 1st derivatives Check user's function for calculating 1st derivatives of	c05zcc e04hcc
	Check user's routine for calculating 2nd derivatives of	e04hdc
	Check user's function for calculating Jacobian of 1st	e04yac
Computes probabilities for	-	g01ecc
Computes deviates for the	-	g01fcc
	chi-squared statistics for two-way contingency table Cholesky factorization: See Factorization	g11aac
	Circular convolution or correlation of two real vectors	c06ekc
Cosine integral		s13acc
Performs principal coordinate analysis,		g03fac
Interpolating functions, method of Renka and		e01sac
memory freeing function for use with Renka and Hiorarchical		e01szc
	cluster analysis cluster analysis	g03ecc g03efc
	cluster indicator variable (for use after g03ecc)	g03eic g03ejc
positive-definite simultaneous linear equations	· · · · · · · · · · · · · · · · · · ·	f04agc

Solution of real simultaneous linear equations ((coefficient matrix already factorized by f03afc)	f04ajc
Solution of complex simultaneous linear equations ((coefficient matrix already factorized by f03ahc)	f04akc
postive-definite simultaneous linear equations ((coefficient matrix already factorized by f01bnc)	f04awc
variable-bandwidth simultaneous linear equations (coefficient matrix already factorized by f01mcc)	f04mcc
Initialization of trigonometric	coefficients for FFTs	c06gzc
Computes factor score	coefficients (for use after g03cac)	g03ccc
time series, cross amplitude spectrum, squared	coherency, bounds, univariate and bivariate (cross)	g13cec
	columns of Q after factorization by f01qcc	f01qec
	columns of Q after factorization by f01rcc	f01rec
of a factor analysis model, factor loadings,		g03cac
	Complement of cumulative normal distribution	s15acc
	Complement of error function $\operatorname{erfc} x$	s15adc
Applysis of variance	complete factorial design, treatment means and	g04cac
Analysis of variance,	Complex number from real and imaginary parts	a02bac
		a02bac a02ddc
	Complex number raised to an integer power	
	Complex exponential	a02dhc
	Complex number raised to real power	a02dec
	Complex number raised to complex power	a02dfc
	Complex logarithm	a02dgc
	Complex cosine	a02dkc
	Complex conjugate of Hermitian sequence	c06gbc
	Complex conjugate of complex sequence	c06gcc
	Complex conjugate of multiple Hermitian sequences	c06gqc
Real part of a	complex number	a02bbc
Imaginary part of a	complex number	a02bcc
Addition of two	complex numbers	a02cac
Subtraction of two	complex numbers	a02cbc
Multiplication of two	complex numbers	a02ccc
Quotient of two	complex numbers	a02cdc
Negation of a	complex number	a02cec
Conjugate of a	complex number	a02cfc
Equality of two	complex numbers	a02cgc
- •	complex numbers	a02chc
	complex number	a02dac
÷	complex number	a02dbc
	complex number	a02dcc
	complex polynomial, modified Laguerre method	c02afc
	complex discrete Fourier transform	c06ecc
	complex discrete Fourier transforms	c06frc
-	complex discrete Fourier transform	c06fuc
Convert Hermitian sequences to general		c06gsc
	complexHermitian positive-definite matrix	f01bnc
All eigenvalues and eigenvectors of		f02axc
	complex Hermitian matrix	f02awc
	complex matrix	f02xec
LU factorization and determinant of	-	f03ahc
	-	f04awc
	complex Hermitian postive-definite simultaneous linear	
	conditioned conjugate gradient algorithm, function of	e04dgc
Simple linear regression		g02cbc
in means between two Normal populations,		g07cac
	Conjugate of a complex number	a02cfc
-	conjugate of Hermitian sequence	c06gbc
*	conjugate of complex sequence	c06gcc
-	conjugate of multiple Hermitian sequences	c06gqc
	conjugate gradient algorithm, function of several	e04dgc
	conjugate gradient/Lanczos method, preconditioner/	f11jcc
	conjugate gradient/Lanczos method, Jacobi or SSOR/	f11jec
Rank-1 update, complex rectangular matrix,		f06snc
Mathematical		x01
	constants	x02
	constrained linear least-squares problem	e04ncc
	constraints, using function values and optionally 1st	e04ucc
	constraints, sequential QP method, using function	e04unc
of a general linear regression model for given		g02dkc
of parameters of a general linear model for given		g02gkc
χ^2 statistics for two-way		g11aac
difference technique with deferred correction,	•	d02rac
Zero of	${\bf continuous}$ function in given interval, Bus and Dekker \ldots	c05sdc
Kalman filters,	controller Hessenberg transformation	g13ewc
	Convert Hermitian sequences to general complex	c06gsc
	Convex QP problem or linearly-constrained linear	e04ncc

Keywords in Context

Circular convolution or correlation of two real vectors	c06ekc
problem, finite difference technique with deferred correction , simple nonlinear problem	d02gac
problem, finite difference technique with deferred correction , general linear problem	d02gbc
problem, finite difference technique with deferred correction , continuation facility	d02rac
Circular convolution or correlation of two real vectors	c06ekc
Computes (optionally weighted) correlation and covariance matrices missing values	g02bxc
Calculates a robust estimation of a correlation matrix, Huber's weight function	g02hkc
Performs canonical correlation analysis	g03adc
model, factor loadings, communalities and residual correlations	g03cac
Largest permissible argument for sin and cos	X02AHC
$\cosh x$	s10acc
$\operatorname{arc} \operatorname{\mathbf{cosh}} x$	s11acc
Complex cosine	a02dkc
Discrete cosine transform	c06hbc
Discrete quarter-wave cosine transform	c06hdc
Cosine integral $\operatorname{Ci}(x)$	s13acc
Covariance matrix for nonlinear least-squares problem	e04ycc
Computes (optionally weighted) correlation and covariance matrices	g02bxc
Computes test statistic for equality of within-group covariance matrices and matrices for discriminant	g03dac
squared distances for group or pooled variance-covariance matrices (for use after g03dac)	g03dbc
Kalman filters, square root, covariance , time varying	g13eac
Kalman filters, square root, covariance , time invariant	g13ebc
Multivariate time series, smoothed sample cross spectrum using spectral smoothing by the	g13cdc
coherency, bounds, univariate and bivariate (cross) spectra	g13cec
Multivariate time series, cross amplitude spectrum, squared coherency, bounds,	g13cec
gain, phase, bounds, univariate and bivariate (cross) spectra	g13cfc
Crout's method: See LU factorization	810010
Interpolating functions, cubic spline interpolant, one variable	e01bac
functions, monotonicity-preserving, piecewise cubic Hermite, one variable	e01bac e01bec
	e01bec e02bac
Least-squares curve cubic spline fit (including interpolation) Evaluation of fitted cubic spline, function only	
	e02bbc
Evaluation of fitted cubic spline, function and derivatives	e02bcc
Evaluation of fitted cubic spline, definite integral	e02bdc
Least-squares cubic spline curve fit, automatic knot placement	e02bec
Cumulative normal distribution function $P(x)$	s15abc
Set up reference vector from supplied cumulative distribution function or probability	g05exc
Complement of cumulative normal distribution function $Q(x)$	s15acc
Least-squares curve fit, by polynomials, arbitrary data points	e02adc
Least-squares curve cubic spline fit (including interpolation)	e02bac
Least-squares cubic spline curve fit, automatic knot placement	e02bec
Fresnel integral $C(x)$	s20adc
spectral smoothing by the trapezium frequency (Daniell) window	
	g13cbc
spectral smoothing by the trapezium frequency (Daniell) window	g13cbc g13cdc
Singular value decomposition: See SVD	U
Singular value decomposition : See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem	g13cdc d02gac
Singular value decomposition : See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem	g13cdc
Singular value decomposition : See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem	g13cdc d02gac
Singular value decomposition : See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem	g13cdc d02gac d02gbc
Singular value decomposition : See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility	g13cdc d02gac d02gbc d02rac
Singular value decomposition : See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL^H factorization of complex Hermitian positive- definite matrix	g13cdc d02gac d02gbc d02rac e01bhc
Singular value decomposition : See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL^H factorization of complex Hermitian positive- definite matrix	g13cdc d02gac d02gbc d02rac e01bhc e02bdc
Singular value decomposition : See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc
$\begin{array}{c} \mbox{Singular value decomposition: See SVD} \\ \mbox{ value problem, finite difference technique with deferred correction, simple nonlinear problem} \\ \mbox{ value problem, finite difference technique with deferred correction, general linear problem} \\ \mbox{ value problem, finite difference technique with deferred correction, continuation facility} \\ \mbox{Interpolated values, interpolant computed by e01bec, definite integral, one variable} \\ \mbox{Evaluation of fitted cubic spline, definite integral} \\ \mbox{LDL}^{H} factorization of complex Hermitian positive-definite wariable-bandwidth matrix} \\ \mbox{LDL}^{T} factorization of real symmetric positive-definite variable-bandwidth matrix} \\ \end{array}$	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc
$\begin{array}{c} \mbox{Singular value decomposition: See SVD} \\ \mbox{ value problem, finite difference technique with deferred correction, simple nonlinear problem} \\ \mbox{ value problem, finite difference technique with deferred correction, general linear problem} \\ \mbox{ value problem, finite difference technique with deferred correction, continuation facility} \\ \mbox{Interpolated values, interpolant computed by e01bec, definite integral, one variable} \\ \mbox{Evaluation of fitted cubic spline, definite integral} \\ \mbox{LL}^H \mbox{ factorization of complex Hermitian positive-definite matrix} \\ \mbox{LDL}^T \mbox{ factorization of real symmetric positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \end{array}$	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc
$\begin{array}{c} \mbox{Singular value decomposition: See SVD} \\ \mbox{ value problem, finite difference technique with deferred correction, simple nonlinear problem} \\ \mbox{ value problem, finite difference technique with deferred correction, general linear problem} \\ \mbox{ value problem, finite difference technique with deferred correction, continuation facility} \\ \mbox{Interpolated values, interpolant computed by e01bec, definite integral, one variable} \\ \mbox{Evaluation of fitted cubic spline, definite integral} \\ \mbox{LL}^H \mbox{ factorization of complex Hermitian positive-definite matrix} \\ \mbox{LDL}^T \mbox{ factorization of real symmetric positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mbox{ is positive-definite} \\ \mbox{ where } A \mbox{ and } B \mbox{ are symmetric and } B \mb$	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL^H factorization of complex Hermitian positive-definite matrix LDL^T factorization of real symmetric positive-definite where A and B are symmetric and B is positive-definite where A and B are symmetric and B is positive-definite and determinant of real symmetric positive-definite matrix Solution of real symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec
$\label{eq:singular value decomposition: See SVD} \\ value problem, finite difference technique with deferred correction, simple nonlinear problem \\ value problem, finite difference technique with deferred correction, general linear problem \\ value problem, finite difference technique with deferred correction, continuation facility \\ Interpolated values, interpolant computed by e01bec, definite integral, one variable \\ Evaluation of fitted cubic spline, definite integral \\ LL^H factorization of complex Hermitian positive-definite matrix \\ LDL^T factorization of real symmetric positive-definite variable-bandwidth matrix \\ where A and B are symmetric and B is positive-definite \\ and determinant of real symmetric positive-definite matrix \\ Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient \\ Solution for solution $	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc
$\label{eq:stability} \begin{tabular}{lllllllllllllllllllllllllllllllllll$	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04awc
$\label{eq:spectral_states} \begin{array}{c} \mbox{Singular value decomposition: See SVD} \\ \mbox{ value problem, finite difference technique with deferred correction, simple nonlinear problem} \\ \mbox{ value problem, finite difference technique with deferred correction, general linear problem} \\ \mbox{ value problem, finite difference technique with deferred correction, continuation facility} \\ \mbox{Interpolated values, interpolant computed by e01bec, definite integral, one variable} \\ \mbox{Evaluation of fitted cubic spline, definite integral} \\ \mbox{ILL}^H \ factorization of complex Hermitian positive-definite matrix} \\ \mbox{IDL}^T \ factorization of real symmetric positive-definite} \\ \mbox{ where } A \ and B \ are symmetric and B \ is positive-definite matrix} \\ \mbox{ where } A \ and B \ are symmetric positive-definite matrix} \\ \mbox{Solution of real symmetric positive-definite matrix} \\ \mbox{Solution of real symmetric positive-definite matrix} \\ \mbox{Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear \\ \mbox{Solution of real symmetric positive-definite variable-bandwidth simultaneous linear \\ \mbox{Solution of real symmetric positive-definite variable-bandwidth simultaneous linear \\ \mbox{Solution of real symmetric positive-definite variable-bandwidth simultaneous linear \\ \mbox{Degenerate symmetrised elliptic integral of 1st kind } \end{array}$	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04awc f04mcc s21bac
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL^H factorization of complex Hermitian positive-definite matrix LDL^T factorization of real symmetric positive-definite where A and B are symmetric and B is positive-definite and determinant of real symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04awc f04mcc s21bac c05sdc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL ^H factorization of complex Hermitian positive-definite matrix LDL ^T factorization of real symmetric positive-definite where A and B are symmetric and B is positive-definite and determinant of real symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind Delete a variable from a general linear regression model	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04awc f04mcc s21bac c05sdc g02dfc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL ^H factorization of complex Hermitian positive-definite matrix LDL ^T factorization of real symmetric positive-definite where A and B are symmetric and B is positive-definite and determinant of real symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind L of continuous function in given interval, Bus and Dekker algorithm Delete a variable from a general linear regression model Add/delete an observation to/from a general linear	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04awc f04mcc s21bac c05sdc g02dfc g02dcc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL^H factorization of complex Hermitian positive-definite matrix LDL^T factorization of real symmetric positive-definite where A and B are symmetric and B is positive-definite and determinant of real symmetric positive-definite isimultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind of continuous function in given interval, Bus and Dekker algorithm Delete a variable from a general linear regression model Add/delete an observation to/from a general linear Constructs dendrogram (for use after g03ecc)	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04awc f04mcc s21bac c05sdc g02dfc g02dcc g03ehc
$\label{eq:spectral_symmetric} Singular value decomposition: See SVD \\ value problem, finite difference technique with deferred correction, simple nonlinear problem \\ value problem, finite difference technique with deferred correction, general linear problem \\ value problem, finite difference technique with deferred correction, continuation facility \\ Interpolated values, interpolant computed by e01bec, definite integral, one variable \\ Evaluation of fitted cubic spline, definite integral, one variable \\ Evaluation of complex Hermitian positive-definite matrix \\ LDL^T factorization of real symmetric positive-definite variable-bandwidth matrix \\ where A and B are symmetric and B is positive-definite \\ where A and B are symmetric and B is positive-definite matrix \\ Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear \\ Degenerate symmetrised elliptic integral of 1st kind \\ Degenerate symmetric elliptic integral of 1st kind \\ Modd/delete an observation to/from a general linear \\ Constructs dendrogram (for use after g03ecc) \\ Free NAG allocated memory for the dendrogram array in g03ehc$	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04awc f04awc s21bac c05sdc g02dfc g02dcc g03ehc g03xzc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL^H factorization of complex Hermitian positive-definite matrix LDL^T factorization of real symmetric positive-definite variable-bandwidth matrix where A and B are symmetric and B is positive-definite where A and B are symmetric positive-definite matrix Solution of real symmetric positive-definite matrix Solution of real symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind of continuous function in given interval, Bus and Dekker algorithm Delete a variable from a general linear regression model Add/delete an observation to/from a general linear Constructs dendrogram (for use after g03ecc) Free NAG allocated memory for the dendrogram array in g03ehc Computes upper and lower tail and probability density function probabilities for the beta distribution	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04awc f04awc g02dfc g02dfc g02dcc g03ehc g03ec g01eec
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral LL ^H factorization of fitted cubic spline, definite integral LL ^T factorization of real symmetric positive-definite matrix LDL ^T factorization of real symmetric positive-definite where A and B are symmetric and B is positive-definite and determinant of real symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind Constructs dendrogram (for use after g03ecc) Free NAG allocated memory for the dendrogram array in g03ehc Computes upper and lower tail and probability density function probabilities for the beta distribution interpolant computed by e01bec, function and 1st derivative, one variable	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f03aec f04agc f04agc f04awc f04awc g02dfc g02dfc g02dcc g03ehc g03ec g01ecc e01bgc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral LL ^H factorization of fitted cubic spline, definite integral LL ^H factorization of complex Hermitian positive-definite matrix where A and B are symmetric positive-definite where A and B are symmetric and B is positive-definite where A and B are symmetric positive-definite and determinant of real symmetric positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind of continuous function in given interval, Bus and Dekker algorithm Delete a variable from a general linear regression model Add/delete an observation to/from a general linear Constructs dendrogram (for use after g03ecc) Free NAG allocated memory for the dendrogram array in g03ehc Computes upper and lower tail and probability density function probabilities for the beta distribution interpolant computed by e01bec, function and 1st derivative, one variable Minimum, function of one variable, using 1st derivative	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f04agc f04agc f04awc f04mcc s21bac c05sdc g02dfc g02dcc g03ehc g03xzc g01eec e01bgc e04bbc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral LL ^H factorization of complex Hermitian positive-definite matrix LDL ^T factorization of real symmetric positive-definite where A and B are symmetric and B is positive-definite where A and B are symmetric and B is positive-definite and determinant of real symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian postive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind Constructs dendrogram (for use after g03ecc) Free NAG allocated memory for the dendrogram array in g03ehc Computes upper and lower tail and probability density function probabilities for the beta distribution interpolant computed by e01bec, function and 1st derivative, one variable Minimum, function of one variable, using 1st derivatives	g13cdc d02gac d02gbc d02rac e01bhc f01bnc f01mcc f02adc f02aec f04agc f04agc f04awc f04awc g02dfc g02dfc g02dcc g03ehc g03exc g01eec e01bgc e04bbc c05ubc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral LL ^H factorization of complex Hermitian positive-definite matrix LDL ^T factorization of real symmetric positive-definite matrix where A and B are symmetric and B is positive-definite where A and B are symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind Constructs dendrogram (for use after g03ecc) Free NAG allocated memory for the dendrogram array in g03ehc Computes upper and lower tail and probability density function probabilities for the beta distribution interpolant computed by e01bec, function and 1st derivative Solution of system of nonlinear equations using 1st derivatives	g13cdc d02gac d02gbc d02rac e01bhc f01bnc f01mcc f02adc f02aec f04agc f04agc f04awc f04awc g02dcc g02dcc g02dcc g03ehc g03ec e01bgc e04bbc c05ubc c05ubc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral, one variable Evaluation of fitted cubic spline, definite integral LL ^H factorization of complex Hermitian positive-definite matrix LDL ^T factorization of real symmetric positive-definite where A and B are symmetric and B is positive-definite where A and B are symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of complex Hermitian positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Degenerate symmetrised elliptic integral of 1st kind Constructs dendrogram (for use after g03ecc) Free NAG allocated memory for the dendrogram array in g03ehc Computes upper and lower tail and probability density function probabilities for the beta distribution interpolant computed by e01bec, function and 1st derivatives Solution of system of nonlinear equations using 1st derivatives Evaluation of fitted cubic spline, function and derivatives	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f04agc f04agc f04awc f04awc g02dcc g02dcc g02dcc g02dcc g02dcc g03ehc g03ehc g03ec e01bgc e04bbc c05ubc c05zcc e02bcc
Singular value decomposition: See SVD value problem, finite difference technique with deferred correction, simple nonlinear problem value problem, finite difference technique with deferred correction, general linear problem value problem, finite difference technique with deferred correction, continuation facility Interpolated values, interpolant computed by e01bec, definite integral LL ^H factorization of complex Hermitian positive-definite matrix LDL ^T factorization of real symmetric positive-definite matrix where A and B are symmetric and B is positive-definite where A and B are symmetric positive-definite matrix Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite simultaneous linear equations (coefficient Solution of real symmetric positive-definite variable-bandwidth simultaneous linear Degenerate symmetrised elliptic integral of 1st kind Constructs dendrogram (for use after g03ecc) Free NAG allocated memory for the dendrogram array in g03ehc Computes upper and lower tail and probability density function probabilities for the beta distribution interpolant computed by e01bec, function and 1st derivative Solution of system of nonlinear equations using 1st derivatives	g13cdc d02gac d02gbc d02rac e01bhc e02bdc f01bnc f01mcc f02adc f02aec f04agc f04agc f04awc f04mcc s21bac c05sdc g02dfc g02dcc g03ehc g03ec e01bgc e04bbc c05ucc

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method, using function values and optionally 1st of		e04unc
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Keywords in Context

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0	elliptic integral of 2nd kind $R_D(x, y, z)$	s21bcc
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	factorization and determinant of real matrix	f03ahc
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1-D quadrature, adaptive,	${\bf finite} \ {\rm interval}, \ {\rm allowing} \ {\rm for} \ {\rm singularities} \ {\rm at} \ {\rm user-specified} \ \dots$	d01slc
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	Free NAG allocated memory for the dendrogram array	g03xzc
	Free memory allocated by h02buc	h02bvc
	Free NAG allocated memory from option structures	h02xzc
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using spectral smoothing by the trapezium		g13cdc s20acc
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All eigenvalues and eigenvectors of	generalized real eigenproblem of the form $Ax = \lambda Bx \dots$	f02aec
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	Hermitian sequences to general complex sequences	c06gsc
	Hermitian positive-definite matrix	f01bnc
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-	Hermitian postive-definite simultaneous linear	f04awc
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	Hermitian band matrix (zhbmv) Hermitian packed matrix (zhpmv)	106sac f06sec
	Hermitian matrix (zher)	f06spc
		TAGOPT

	Hermitian packed matrix (zhpr)	f06sqc
	Hermitian matrix (zher2)	f06src
- / -	Hermitian packed matrix (zhpr2)	f06ssc
Matrix-matrix product, one complex Rank- $2k$ update of a complex	Hermitian matrix, one complex rectangular (zhemm)	f06zcc f06zrc
Rank-2k update of a complex Rank-k update of a complex	· · · · ·	f06zrc
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	Hypergeometric distribution function	g01blc
•	identification	a00aac
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- • •	indicator variable (for use after g03ecc)	g03ejc
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	-infinite interval, weight function $\cos(\omega x)$ or	d01ssc
Calculates standardized residuals and		g02fac
Bounded	influence: See Robust	U U
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	Initial value problem: See IVP	
	Initialization of trigonometric coefficients for FFTs	c06gzc
	Initialization function for Chapter e04 option setting	e04xxc
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	Initialize random number generating functions to give	g05cbc
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	integral $\operatorname{Ci}(x)$	s13acc
	integral $Si(x)$	s13adc
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Degenerate symmetrised elliptic	integral $C(x)$ integral of 1st kind $B_{\alpha}(x, y)$	s20adc s21bac
	integral of 1st kind $R_F(x, y, z)$	s21bac s21bbc
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	interpolant computed by e01bec, function only, one	e01bfc
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Interpolated values, evaluate		e01sbc
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	Interpolated values, interpolant computed by e01bec,	e01bfc
	Interpolated values, interpolant computed by e01bec, Interpolated values, interpolant computed by e01bec,	e01bgc
	Interpolated values, interpolant computed by e01bec, Interpolated values, interpolant computed by e01bec, Interpolated values, interpolant computed by e01bec,	e01bgc e01bhc
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	interpolation for d02qfc	d02pxc d02qzc
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Least-squares curve cubic spline fit (including	-	e02bac
Least squares curve cusic spinie in (including	Inverse distributions	g01
	Inverse Normal distribution function	g01cec
Converts MPSX data file defining	IP or LP problem to format required by h02bbc or e04mfc	•
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	IVP , BDF method, until function of solution is zero,	d02ejc
		d02pcc
	IVP, Runge–Kutta method, integration over one step	d02pdc
	IVP, set-up for d02pcc and d02pdc	d02pvc
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ODEs,	IVP, set-up for d02qfc	d02qwc
ODEs,	IVP, freeing function for use with d02qfc	d02qyc
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Keivin function	Kelvin function ber x	s19auc s19aac
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Kelvin function		s19acc
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All zeros of complex polynomial, modified	Laguerre method	c02afc
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Covariance matrix for nonlinear	least-squares problem	
	- ·	e04ycc
	- ·	e04ycc a00aac
	<pre>least-squares problem Library identification likelihood estimates of the parameters of a factor</pre>	•
	least-squares problem Library identification	a00aac
	<pre>least-squares problem Library identification likelihood estimates of the parameters of a factor</pre>	a00aac g03cac
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Computes Kaplan-Meier (product- Convex QP problem or linearly-constrained Solution of complex simultaneous	least-squares problem Library identification likelihood estimates of the parameters of a factor limit) estimates of survival probabilities Linear programming problem linear least-squares problem linear equations with multiple right-hand sides	a00aac g03cac g12aac e04mfc e04ncc f04adc
Computes Kaplan-Meier (product Convex QP problem or linearly-constrained Solution of complex simultaneous of real symmetric positive-definite simultaneous	least-squares problem Library identification likelihood estimates of the parameters of a factor limit) estimates of survival probabilities Linear programming problem linear least-squares problem linear equations with multiple right-hand sides linear equations (coefficient matrix already factorized	a00aac g03cac g12aac e04mfc e04ncc f04adc f04agc
Computes Kaplan-Meier (product Convex QP problem or linearly-constrained Solution of complex simultaneous of real symmetric positive-definite simultaneous Solution of real simultaneous	least-squares problem Library identification likelihood estimates of the parameters of a factor limit) estimates of survival probabilities Linear programming problem linear least-squares problem linear equations with multiple right-hand sides linear equations (coefficient matrix already factorized linear equations (coefficient matrix already factorized	a00aac g03cac g12aac e04mfc e04ncc f04adc f04agc f04ajc
Computes Kaplan-Meier (product Convex QP problem or linearly-constrained Solution of complex simultaneous of real symmetric positive-definite simultaneous Solution of real simultaneous Solution of complex simultaneous	least-squares problem Library identification likelihood estimates of the parameters of a factor limit) estimates of survival probabilities Linear programming problem linear least-squares problem linear equations with multiple right-hand sides linear equations (coefficient matrix already factorized linear equations (coefficient matrix already factorized linear equations (coefficient matrix already factorized	a00aac g03cac g12aac e04mfc e04ncc f04adc f04agc f04ajc f04akc
Computes Kaplan-Meier (product Convex QP problem or linearly-constrained Solution of complex simultaneous of real symmetric positive-definite simultaneous Solution of real simultaneous Solution of complex simultaneous Solution of real simultaneous	least-squares problem Library identification likelihood estimates of the parameters of a factor limit) estimates of survival probabilities Linear programming problem linear least-squares problem linear equations with multiple right-hand sides linear equations (coefficient matrix already factorized linear equations (coefficient matrix already factorized linear equations (coefficient matrix already factorized linear equations, one right-hand side	a00aac g03cac g12aac e04mfc e04ncc f04adc f04agc f04ajc f04akc f04arc
Computes Kaplan-Meier (product Convex QP problem or linearly-constrained Solution of complex simultaneous of real symmetric positive-definite simultaneous Solution of real simultaneous Solution of complex simultaneous Solution of real simultaneous Hermitian postive-definite simultaneous	least-squares problem Library identification likelihood estimates of the parameters of a factor limit) estimates of survival probabilities Linear programming problem linear least-squares problem linear equations with multiple right-hand sides linear equations (coefficient matrix already factorized linear equations (coefficient matrix already factorized linear equations (coefficient matrix already factorized	a00aac g03cac g12aac e04mfc e04ncc f04adc f04agc f04ajc f04akc

Real sparse unsymmetric	linear systems, incomplete LU factorization	f11dac
Solution of real sparse unsymmetric	linear system, RGMRES, CGS or Bi-CGSTAB method,	f11dcc
	linear system, RGMRES, CGS or Bi-CGSTAB method,	
	• • • •	
- •	linear system, conjugate gradient/Lanczos method,	f11jcc
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Fits a general (multiple)	-	g02dac
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Estimates of linear parameters and general	linear regression model from updated model	g02ddc
Add a new variable to a general	÷ -	g02dec
Delete a variable from a general	0	0
	· · · · · · · · · · · · · · · · · · ·	g02dfc
0	linear regression model for new dependent variable	g02dgc
and standard errors of parameters of a general	linear regression model for given constraints	g02dkc
Computes estimable function of a general	linear regression model and its standard error	g02dnc
Fits a generalized	linear model with Normal errors	g02gac
~	linear model with binomial errors	
0		g02gbc
Fits a generalized	linear model with Poisson errors	g02gcc
Fits a generalized	linear model with gamma errors	g02gdc
and standard errors of parameters of a general	linear model for given constraints	g02gkc
Computes estimable function of a generalized	~	g02gnc
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- •	loading matrix, generalized orthomax criterion	g03bac
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,	Log Gamma function	s14abc
function with and naint simularities of algebraics	0	
function with end-point singularities of algebraico		d01spc
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Converts MPSX data file defining	LP or QP problem to format required by e04nkc	e04mzc
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Ű	LU factorization and determinant of real matrix	f03afc
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Real sparse unsymmetric linear systems, incomplete		f11dac
Solution of linear system involving incomplete	LU preconditioning matrix generated by f11dac	f11dbc
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		•
Search a set of arbitrary objects for first or last		m01fsc
	Mathematical constants	x01
	Maximization	e04
	Maximum number of decimal digits that can be	X02BEC
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Computes the	-	•
	Mean, variance, skewness, kurtosis etc, one variable,	g01aac
Computes a trimmed and winsorized	mean of a single sample with estimates of their	g07ddc
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of variance, complete factorial design, treatment		g04cac
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*	means between two Normal populations, confidence	g07cac
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Computes a five-point summary	(median, hinges and extremes)	g01alc
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	-Meier (product-limit) estimates of survival	g12aac
	. ,	•
	memory freeing function for use with Runge–Kutta	d02ppc
NAG	memory freeing function for use with Renka and Cline	e01szc
Free	memory allocated by e04mzc	e04myc
NAG	memory freeing function for use with option setting	e04xzc
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	memory to some parameters in g04cac	g04czc
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NAG	memory freeing function for the transfer function	g13bzc
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	Minimum, function of one variable using function Minimum, function of one variable, using 1st derivative	e04abc e04bbc

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	Minimum, function of several variables, Minimum, function of several variables,	e04jbc e04kbc
	Minimum, function of several variables, modified	e041bc
	Minimum, function of several variables, sequential QP	e04ucc
	Minimum of a sum of squares, nonlinear constraints,	e04unc
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Fits a general (multiple) linear regression	-	g02dac
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Add a new variable to a general linear regression		g02dec
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Multivariate time series, estimation of multi-input		g13bec
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	Modified Bessel function $e^x K_1(x)$	s18cdc
	Modified Bessel function $e^{- x }I_0(x)$	s18cec
	Modified Bessel function $e^{- x }I_1(x)$	s18cfc
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	modified Newton algorithm, simple bounds, using 1st modified Shepard's method, two dimensions	e041bc e01sac
morpolating functions,	Modulus of a complex number	a02dbc
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Multi-dimensional quadrature over hyper-rectangle,	Monte Carlo method	d01xbc
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	Multiple 1-D real discrete Fourier transforms	c06fpc
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~ • • •	Multiple 1-D complex discrete Fourier transforms	c06frc
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of complex simultaneous linear equations with Solves a system of equations with	multiple right-hand sides, real triangular (dtrsm)	f04adc f06yjc
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· -	(multiple) linear regression model	g02dac
	Multiplication of two complex numbers	a02ccc
	Multivariate time series, estimation of multi-input	g13bec
	Multivariate time series, state set and forecasts from	g13bjc
	Multivariate time series, smoothed sample cross Multivariate time series, cross amplitude spectrum,	g13cdc g13cec
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	Multivariate time series, gain, phase, bounds,	g13cfc
	Multivariate time series, noise spectrum, bounds,	g13cgc
-	multivariate Normal distribution	g05eac
	multivariate Normal vector from reference vector (negative) exponential distribution	g05ezc
	- Newton and modified Newton algorithm using function	g05dbc e04fcc
	-Newton and quasi-Newton algorithm using 1st	e04gbc
Minimum, function of several variables, quasi-		e04jbc
	-Newton algorithm, simple bounds, using 1st	e04kbc
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	\mathbf{noise} spectrum, bounds, impulse response function and	g13cgc
Initialize random number generating functions to give		g05ccc
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Colution of quatom of	Nonlinear regression	e04 c05tbc
	nonlinear equations using function values only nonlinear equations using 1st derivatives	c05tbc
technique with deferred correction, simple		d02gac
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of several variables, sequential QP method,	nonlinear constraints, using function values and	e04ucc
Minimum of a sum of squares,	${\bf nonlinear}$ constraints, sequential QP method, using	e04unc
	nonlinear least-squares problem	e04ycc
	non-metric (ordinal) multidimensional scaling	g03fcc
, -	non-parametric rank correlation coefficients, casewise	g02brc
	Normal distribution function	g01cec
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Pseudo-random real numbers,	Normal distribution	g05ddc
Set up reference vector for multivariate		g05eac
	Normal vector from reference vector	g05ezc
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	ODEs , IVP, Adams method, until function of solution	d02cjc
	ODEs , stiff IVP, BDF method, until function of ODEs , IVP, Runge–Kutta method, integration over	d02ejc d02pcc
	ODEs , IVP, Runge–Kutta method, integration over	d02pcc d02pdc
	ODEs , IVP, set-up for d02pcc and d02pdc	d02pvc
	ODEs , IVP, resets end of range for d02pdc	d02pwc
	ODEs , IVP, interpolation for d02pdc	d02pxc
	ODEs , IVP, error assessment diagnostics for d02pcc \dots	d02pzc
	ODEs , IVP, Adams method with root-finding	d02qfc
	ODEs , IVP, set-up for d02qfc	d02qwc
	ODEs , IVP, freeing function for use with d02qfc	d02qyc
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Interpolating functions, cubic spline interpolant,		e01bac
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interpolant computed by e01bec, function only,	one variable	e01bfc
\ldots computed by e01 bec, function and 1st derivative,	one variable	e01bgc
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Solution of real simultaneous linear equations,		f04arc
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	Operations with orthogonal matrices, compute QB or Operations with orthogonal matrices, form columns of	f01qdc f01qec
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Initialize	option structure to null values	h02xxc
Read	optional parameter values from a file	h02xyc
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	. –	•
Performs non-metric	(ordinal) multidimensional scaling	g03fcc
	Ordinary differential equations: See ODEs	
Operations with	orthogonal matrices, compute QB or Q^TB after	f01qdc
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-	orthogonal rotations for loading matrix, generalized	g03bac
-		-
rotations for loading matrix, generalized		g03bac
adaptive, finite interval, method suitable for	oscillating functions	d01skc
Incomplete Gamma functions	P(a, x) and $Q(a, x)$	s14bac
Matrix-vector product, real symmetric		f06pec
- · ·		-
Matrix-vector product, real triangular		f06phc
System of equations, real triangular	packed matrix (dtpsv)	f06plc
Rank-1 update, real symmetric	packed matrix (dspr)	f06pqc
Rank-2 update, real symmetric	packed matrix (dspr2)	f06psc
- · ·		f06sec
Matrix-vector product, complex Hermitian		
Matrix-vector product, complex triangular	packed matrix (ztpmv)	f06shc
System of equations, complex triangular	packed matrix (ztpsv)	f06slc
Rank-1 update, complex Hermitian	packed matrix (zhpr)	f06sqc
Rank-2 update, complex Hermitian		f06ssc
7 -	-parametric rank correlation coefficients, casewise	g02brc
Univariate time series,	partial autocorrelations from autocorrelations	g13acc
Pseudo-random	permutation of an integer vector	g05ehc
	phase , bounds, univariate and bivariate (cross) spectra	g13cfc
With Warlate time series, gam,		X01AAC
	pi	
Interpolating functions, monotonicity-preserving,	piecewise cubic Hermite, one variable	e01bec
adaptive, finite interval, strategy due to	Piessens and de Doncker, allowing for badly-behaved	d01sjc
	Poisson distribution function	g01bkc
Fits a generalized linear model with		g02gcc
-		
vector for generating pseudo-random integers,		g05ecc
All zeros of complex	polynomial, modified Laguerre method	c02afc
All zeros of real	polynomial, modified Laguerre method	c02agc
Evaluation of fitted	polynomial in one variable from Chebyshev series form	e02aec
	polynomial fit, special data points (including	e02afc
	polynomials, arbitrary data points	e02adc
Mahalanobis squared distances for group or	pooled variance-covariance matrices (for use after	g03dbc
for a difference in means between two Normal	populations, confidence interval	g07cac
Machine	precision	X02AJC
	preconditioned conjugate gradient algorithm,	e04dgc
		-
system, RGMRES, CGS or Bi-CGSTAB method,	- • • • •	f11dcc
CGS, or Bi-CGSTAB method, Jacobi or SSOR	preconditioner (Black Box)	f11dec
Solution of linear system involving incomplete LU	preconditioning matrix generated by f11dac	f11dbc
of linear system involving incomplete Cholseky	preconditioning matrix generated by filiac	f11jbc
		-
interval, weight function $1/(x-c)$, Cauchy		d01sqc
	principal component analysis	g03aac
Performs	principal coordinate analysis, classical metric scaling	g03fac
Computes	probabilities for the standard Normal distribution	g01eac
-	probabilities for Student's <i>t</i> -distribution	g01ebc
	probabilities for χ^2 distribution	g01ecc
		•
*	probabilities for <i>F</i> -distribution	g01edc
and lower tail and probability density function	probabilities for the beta distribution	g01eec
Computes	probabilities for the gamma distribution	g01efc
Kaplan-Meier (product-limit) estimates of survival		g12aac
- (-)	probability density function probabilities for the beta	g01eec
		-
	probability for the bivariate Normal distribution	g01hac
from supplied cumulative distribution function or	probability distribution function	g05exc
Computes	Procrustes rotations	g03bcc
Matrix-vector	product, real rectangular matrix (dgemv)	f06pac
	product, real rectangular band matrix (dgbmv)	f06pbc
		-
	product, real symmetric matrix (dsymv)	f06pcc
	product, real symmetric band matrix (dsbmv)	f06pdc
Matrix-vector	product, real symmetric packed matrix (dspmv)	f06pec
	product, real triangular matrix (dtrmv)	f06pfc
	product, real triangular band matrix (dtbmv)	f06pgc
	product, real triangular packed matrix (dtpmv)	f06phc
	product, complex rectangular matrix (zgemv)	f06sac
Matrix-vector	product, complex rectangular band matrix (zgbmv)	f06sbc
	product, complex Hermitian matrix (zhemv)	f06scc
	product, complex Hermitian band matrix (zhbmv)	f06sdc
Matrix-Vector	product, complex Hermitian packed matrix (zhpmv)	f06sec

Matrix-vector product , complex triangular matrix (ztrmv)	f06sfc
Matrix-vector product , complex triangular band matrix (ztbmv)	f06sgc
Matrix-vector product , complex triangular packed matrix (ztpmv)	f06shc
Matrix-matrix product , two real rectangular matrices (dgemm) Matrix-matrix product , one real symmetric matrix, one real (dsymm)	f06yac f06ycc
Matrix matrix product , one real triangular matrix, one real (dtrmm)	f06yfc
Matrix-matrix product , two complex rectangular matrices (zgemm)	f06zac
Matrix-matrix $\mathbf{product}$, one complex Hermitian matrix, one (\mathtt{zhemm})	f06zcc
Matrix-matrix product , one complex triangular matrix, one (ztrmm)	f06zfc
Matrix-matrix product , one complex symmetric matrix, one (zsymm)	f06ztc
Computes Kaplan-Meier (product-limit) estimates of survival probabilities Linear programming problem	g12aac e04mfc
Quadratic programming problem	e04nfc
Integer programming problem, branch and bound method	h02bbc
Pseudo-random real numbers, uniform distribution	g05cac
Pseudo-random real numbers, uniform distribution	g05dac
Pseudo-random real numbers, (negative) exponential Pseudo-random real numbers, Normal distribution	g05dbc g05ddc
Pseudo-random integer from uniform distribution	g05dyc
Pseudo-random permutation of an integer vector	g05ehc
Pseudo-random sample from an integer vector	g05ejc
Pseudo-random integer from reference vector	g05eyc
Pseudo-random multivariate Normal vector from Set up reference vector for generating pseudo-random integers, Poisson distribution	g05ezc
Set up reference vector for generating pseudo-random integers, Foisson distribution	g05ecc g05edc
Generates a vector of pseudo-random numbers from a beta distribution	g05fec
Generates a vector of pseudo-random numbers from a gamma distribution	g05ffc
Cumulative normal distribution function $P(x)$	s15abc
Incomplete Gamma functions $P(a, x)$ and $Q(a, x)$	s14bac
QP : See Quadratic programming Converts MPSX data file defining LP or QP problem to format required by e04nkc	e04mzc
Convex QP problem or linearly-constrained linear least-squares	e04ncc
LP or \mathbf{QP} problem (sparse)	e04nkc
Minimum, function of several variables, sequential QP method, nonlinear constraints, using function	e04ucc
a sum of squares, nonlinear constraints, sequential QP method, using function values and optionally 1st	e04unc
Read MPSX data for IP, LP or QP problem from a file QR factorization of real m by n matrix $(m \ge n)$	h02buc f01qcc
QR factorization of roughly m matrix $(m \ge n)$ QR factorization of complex m by n matrix $(m \ge n)$	f01rcc
Quadratic programming problem	e04nfc
1-D quadrature, integration of function defined by data	d01gac
1-D quadrature, adaptive, finite interval, strategy due to	d01sjc
1-D quadrature , adaptive, finite interval, method suitable 1-D quadrature , adaptive, finite interval, allowing for	d01skc d01slc
1-D quadrature, adaptive, infinite or semi-infinite interval	d01smc
1-D quadrature, adaptive, finite interval, weight function	d01snc
1-D quadrature, adaptive, finite interval, weight function	d01spc
1-D quadrature, adaptive, finite interval, weight function	d01sqc
1-D quadrature , adaptive, semi-infinite interval, weight 1-D Gaussian quadrature	d01ssc d01tac
Multi-dimensional adaptive quadrature over hyper-rectangle	d01wcc
Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method	d01xbc
Discrete quarter-wave sine transform	c06hcc
Discrete quarter-wave cosine transform of a sum of squares, combined Gauss–Newton and quasi-Newton algorithm using 1st derivatives	c06hdc e04gbc
Minimum, function of several variables, quasi-Newton algorithm, simple bounds, using	e04gbc e04jbc
Minimum, function of several variables, quasi-Newton algorithm, simple bounds, using 1st	e04kbc
Quotient of two complex numbers	a02cdc
of cumulative normal distribution function $Q(x)$	s15acc
eigenvectors of generalized eigenproblem by QZ algorithm, real matrices Pseudo- random real numbers, uniform distribution over $(0,1)$	f02bjc g05cac
Initialize random number generating functions to give	g05cac g05cbc
Initialize random number generating functions to give non	g05ccc
Save state of random number generating functions	g05cfc
Restore state of random number generating functions Page do number and numbers uniform distribution over (a, b)	g05cgc
Pseudo- random real numbers, uniform distribution over (a, b) Pseudo- random real numbers, (negative) exponential distribution	g05dac g05dbc
Pseudo-random real numbers, (negative) exponential distribution	g05ddc
Pseudo-random integer from uniform distribution	g05dyc
Set up reference vector for generating pseudo-random integers, Poisson distribution	g05ecc
Set up reference vector for generating pseudo- random integers, binomial distribution	g05edc
Pseudo- random permutation of an integer vector	g05ehc

Pseudo- random sample from an integer vector	g05ejc
Pseudo- random integer from reference vector	g05eyc
Pseudo-random multivariate Normal vector from reference vector	g05ezc
Generates a vector of pseudo- random numbers from a beta distribution	g05fec
Generates a vector of pseudo- random numbers from a gamma distribution	g05ffc
Analysis of variance, randomized block or completely randomized design, treatment means and standard errors	g04bbc
Pseudo- random sample from an integer vector	g05ejc
Pseudo- random permutation of an integer vector	g05ehc
ODEs, IVP, Runge–Kutta method, integration over range with output	d02pcc
ODEs, IVP, resets end of range for d02pdc Safe range of floating-point arithmetic	d02pwc X02AMC
Rank-1 update, complex Hermitian packed matrix (zhpr)	f06sqc
Rank-1 update, complex Hermitian matrix (zhpr)	f06spc
Rank-1 update, complex rectangular matrix, (zgerc)	f06snc
Rank-1 update, complex rectangular matrix, (zgere)	f06smc
Rank-1 update, real symmetric packed matrix (dspr)	f06pqc
Rank-1 update, real symmetric matrix (dsyrr)	f06ppc
Rank-1 update, real rectangular matrix (dger)	f06pmc
Rank-2 update, complex Hermitian packed (zhpr2)	f06ssc
Rank-2 update, complex Hermitian matrix (zher2)	f06src
Rank-2 update, real symmetric packed matrix (dspr2)	f06psc
Rank-2 update, real symmetric matrix (dsyr2)	f06prc
Rank- 2k update of a complex symmetric matrix (zher2k)	f06zwc
Rank- $2k$ update of a complex Hermitian matrix (zher2k)	f06zrc
Rank- $2k$ update of a real symmetric matrix (dsyr2k)	f06yrc
\mathbf{Rank} -k update of a complex symmetric matrix (zsyrk)	f06zuc
Rank- <i>k</i> update of a complex Hermitian matrix (zherk)	f06zpc
\mathbf{Rank} -k update of a real symmetric matrix (dsyrk)	f06ypc
Kendall/Spearman non-parametric rank correlation coefficients, casewise treatment of	g02brc
Order a set of arbitrary objects (rank sort)	m01dsc
Ranks , Normal scores, approximate Normal scores or	g01dhc
Converts ranks to indices, or vice-versa	m01zac
Read MPSX data for sparse LP or QP problem from	e04mzc
Read MPSX data for IP, LP or QP problem from a file Read optional parameter values from a file	h02buc h02xyc
Read optional parameter values from a file Rearrange a linked list into ascending or descending	m01cuc
Rearrange a set of arbitrary objects into an order	m01esc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper- rectangle	
Rearrange a set of arbitrary objects into an order	m01esc d01wcc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method	m01esc d01wcc d01xbc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid	m01esc d01wcc d01xbc e01dac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid	m01esc d01wcc d01xbc e01dac e02dcc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular band matrix (dgbmv) Rank-1 update, real rectangular matrix (dger)	m01esc d01wcc d01xbc e01dac e02dcc f06pac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Rank-1 update, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06pmc f06sac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Rank-1 update, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular band matrix (zgemv)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06pmc f06sac f06sbc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Rank-1 update, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular band matrix (zgbmv) Rank-1 update, complex rectangular matrix (zgbmv) Rank-1 update, complex rectangular matrix, unconjugated vector (zgeru)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06pmc f06sac f06sbc f06sbc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Rank-1 update, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Rank-1 update, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgerc)	m01esc d01wcc e01dac e02dcc f06pac f06pbc f06pmc f06sac f06sbc f06smc f06snc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Rank-1 update, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgerc) Matrix-matrix product, two real rectangular matrices (dgemm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06sc f06sc f06sc f06sc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, complex rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgerc) Matrix-matrix product, two real rectangular matrix (dgemm) real symmetric matrix, one real rectangular matrix (dsymm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06sc f06sc f06sc f06yac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgerc) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dtrmm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06sc f06sycc f06ycc f06yfc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) Matrix-matrix product, two complex rectangular matrix (dtrmm) Matrix-matrix product, two complex rectangular matrix (dtrmm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06sc f06sycc f06ycc f06ycc f06ycc f06ycac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) Matrix-matrix product, two complex rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dtrmm) Matrix-matrix product, two complex rectangular matrix (dsymm) one real triangular matrix, one complex rectangular matrix (ztemm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06sc f06sycc f06ycc f06yfc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix (dgymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) Matrix-matrix product, two complex rectangular matrix (dsymm) one complex Hermitian matrix, one complex rectangular matrix (ztemm) one complex triangular matrix, one complex rectangular matrix (ztemm) one complex triangular matrix, one complex rectangular matrix (ztemm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06spc f06yac f06ycc f06ycc f06ycc f06zac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) Matrix-matrix product, two complex rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dtrmm) Matrix-matrix product, two complex rectangular matrix (dsymm) one real triangular matrix, one complex rectangular matrix (ztemm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06scc f06ycc f06ycc f06ycc f06zcc f06zcc f06zcc f06zcc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgbmv) Rank-1 update, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) Matrix-matrix product, two complex rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dtrmm) Matrix-matrix product, two complex rectangular matrix (ztrmm) one complex Hermitian matrix, one complex rectangular matrix (ztrmm) one complex triangular matrix, one complex rectangular matrix (ztrmm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06scc f06ycc f06ycc f06gycc f06gzc f06zcc f06zcc f06zcc f06zcc f06zcc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, complex rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, onjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgerc) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) one complex Hermitian matrix, one complex rectangular matrix (zmmm) one complex triangular matrix, one complex rectangular matrix (ztrmm) one complex triangular matrix, one complex rectangular matrix (zsymm) one complex symmetric matrix, one complex rectangular matrix (zsymm) one complex symmetric matrix, one complex rectangular matrix (zsymm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06spc f06ycc f06ycc f06gycc f06gycc f06zcc f06zcc f06zcc f06zcc f06zcc g05eac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, complex rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (neconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) Matrix-matrix product, two complex rectangular matrix (dsymm) one complex Hermitian matrix, one complex rectangular matrix (ztermm) Matrix-matrix product, two complex rectangular matrix (ztermm) one complex triangular matrix, one complex rectangular matrix (ztermm) one complex triangular matrix, one complex rectangular matrix (ztermm) one complex triangular matrix, one complex rectangular matrix (ztermm) one complex symmetric matrix, one complex rectangular matrix (ztermm) Set up reference vector for multivariate Normal distribution Set up reference vector for generating pseudo-random	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06spc f06ycc f06ycc f06gycc f06zcc f06zcc f06zcc g05eac g05ecc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Rank-1 update, complex rectangular matrix, unconjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgerc) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) one complex Hermitian matrix, one complex rectangular matrix (ztrmm) one complex triangular matrix, one complex rectangular matrix (ztrmm) one complex triangular matrix, one complex rectangular matrix (ztrmm) one complex symmetric matrix, one complex rectangular matrix (ztrmm) Set up reference vector for multivariate Normal distribution Set up reference vector for generating pseudo-random Set up refer	m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sbc f06sbc f06sbc f06spc f06ycc f06ycc f06ycc f06zcc f06zcc g05eac g05ecc g05eyc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle Muti-dimensional quadrature over hyper-rectangle Matrix-wettor product, real rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, complex rectangular matrix (ggmv) Matrix-vector product, complex rectangular matrix (zgmv) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgerc) Matrix-matrix product, two real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) one complex triangular matrix, one complex rectangular matrix (zterm) one complex triangular matrix, one complex rectangular matrix (zterm) one complex triangular matrix, one complex rectangular matrix (zterm)	m01esc d01wcc d01xbc e01dac e02dcc f06pac f06pbc f06sbc f06sbc f06sbc f06sycc f06ycc f06ycc f06zcc f06zcc g05eac g05ecc g05ecc g05ezc
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgern) Matrix-vector product, complex rectangular matrix (dgern) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (agems) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) one complex Hermitian matrix, one complex rectangular matrix (ztrem) Matrix-matrix product, two complex rectangular matrix (ztrem) one complex symmetric matrix, one complex rectangular matrix (zsymm) one complex symmetric matrix os the preference vector for supplied cumulative dist	m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sac f06sbc f06sbc f06sycc f06ycc f06ycc f06gycc f06gycc f06gycc g05eac g05eac g05exc g05exc g05eac
Rearrange a set of arbitrary objects into an order Multi-dimensional quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, complex rectangular matrix (dgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (dgym) Rank-1 update, complex rectangular matrix (cnojugated vector (zgeru) Rank-1 update, complex rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) one real triangular matrix, one complex rectangular matrix (dtrmm) Matrix-matrix product, two complex rectangular matrix (ztrmm) one complex termitian matrix, one complex rectangular matrix (ztrmm) one complex triangular matrix, one complex rectangular matrix (ztrmm) one complex triangular matrix, one complex rectangular matrix (ztrmm) one complex symmetric matrix, one complex rectangular matrix (ztrmm) Set up reference vector for generat	m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sac f06sbc f06sbc f06spc f06ycc f06ycc f06ycc f06gtc f06gtc f06gtc g05eac g05eac g05exc g05eac g05eac g05eac g05eac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgenv) Matrix-vector product, complex rectangular matrix (dgenv) Rank-1 update, complex rectangular matrix, (dgenv) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix, (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) one complex Hermitian matrix, one complex rectangular matrix (zhemm) one complex triangular matrix, one complex rectangular matrix (zhemm) one complex symmetric matrix, one complex rectangular matrix (zhemm) one complex symmetric matrix, one complex rectangular matrix (zhemm) one complex triangular matrix, one complex rectangular matrix (z	m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sac f06sbc f06sbc f06spc f06ycc f06ycc f06ycc f06gtc f06gtc f06gtc g05eac g05eac g05eac g05eac g05eac g05eac g05eac g05eac g05eac g05eac
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgew) Matrix-vector product, real rectangular matrix (dgew) Rank-1 update, real rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix, conjugated vector (zgerc) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one complex Hermitian matrix, one complex rectangular matrix (dsymm) one complex Hermitian matrix, one complex rectangular matrix (ztrum) one complex symmetric matrix, one complex rectangular matrix (ztrum) one complex symmetric matrix, one complex rectangular matrix (ztrum) one complex symmetric matrix, one complex rectangular matrix (ztrum) one complex symmetric matrix, one complex rectangular matrix (ztrum) Set up reference vector for mul	m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sac f06sbc f06sc f06sycc f06ycc f06ycc f06ycc f06gycc f06gycc g05eac g05 g05 g05 g05 g05 g
Rearrange a set of arbitrary objects into an order Multi-dimensional adaptive quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid matrix-vector product, real rectangular matrix (dgemv) Matrix-vector product, real rectangular band matrix (dgbmv) Rank-1 update, real rectangular matrix (dger) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Matrix-vector product, complex rectangular matrix (zgemv) Rank-1 update, complex rectangular matrix, cojugated vector (zgeru) Rank-1 update, complex rectangular matrix (sgemm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrices (dgemm) one real triangular matrix, one real rectangular matrix (dsymm) one complex triangular matrix, one complex rectangular matrix (dsymm) one complex triangular matrix, one complex rectangular matrix (zsymm) one complex triangular matrix, one complex rectangular matrix (zsymm) one complex symmetric matrix, one complex rectangular matrix (zsymm) one complex rectangular matrix (zsymm) one ference vector for generating pseudo-random Set up reference vector for supplied cumulative distribution Pseudo-random integer from referenc	m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sbc f06sbc f06sbc f06sc f06yac f06ycc f06ycc f06gycc f06gycc g05eac g05 g05 g05 g05 g05 g05 g05 g05 g05 g05
Rearrange a set of arbitrary objects into an order Multi-dimensional quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular matrix (dgewv) Matrix-vector product, real rectangular matrix (dgewv) Matrix-vector product, complex rectangular band matrix (zgbwv) Matrix-vector product, complex rectangular matrix (zgbwv) Matrix-vector product, complex rectangular matrix (zgbwv) Rank-1 update, complex rectangular matrix, (zgbwv) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix, capteme Matrix-vector product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one complex rectangular matrix (dtrmm) Matrix-matrix product, two complex rectangular matrix (zbemm) one complex Hermitian matrix, one complex rectangular matrix (zshem) one complex symmetric matrix, one complex rectangular matrix (zshem) one complex symmetric matrix, one complex rectangular matrix (zshem) one complex symmetric matrix, one complex rectangular matrix (zshem) one complex symmetric matrix, one complex rectangular matrix (m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sbc f06sbc f06sbc f06sc f06ycc f06ycc f06yfc f06zcc f06zcc g05eac g05eac g05ecc g05cc g05
Rearrange a set of arbitrary objects into an order Multi-dimensional quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular grid Matrix-vector product, real rectangular matrix (dgenv) Matrix-vector product, real rectangular matrix (dgenv) Matrix-vector product, complex rectangular matrix (dgenv) Matrix-vector product, complex rectangular matrix (zgenv) Matrix-vector product, complex rectangular matrix (zgenv) Matrix-vector product, complex rectangular matrix (zgenv) Matrix-vector product, complex rectangular matrix, (anoingated vector (zgeru) Rank-1 update, complex rectangular matrix, (anoingated vector (zgeru) Rank-1 update, complex rectangular matrix, (anoingated vector (zgerc) Matrix-matrix product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one real rectangular matrix (dsymm) one complex triangular matrix, one complex rectangular matrix (ztemm) one complex triangular matrix, one complex rectangular matrix (ztemm) one complex symmetric matrix, one complex rectangular matrix (ztemm) one complex remainsymmetric matrix (ztemm) one complex remains (ztemm)	m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sbc f06sbc f06sbc f06sc f06ycc f06ycc f06yfc f06zcc f06zcc g05eac g05eac g05ecc g05cc g
Rearrange a set of arbitrary objects into an order Multi-dimensional quadrature over hyper-rectangle Multi-dimensional quadrature over hyper-rectangle, Monte Carlo method functions, fitting bicubic spline, data on rectangular grid splines with automatic knot placement, data on rectangular matrix (dgewv) Matrix-vector product, real rectangular matrix (dgewv) Matrix-vector product, complex rectangular band matrix (zgbwv) Matrix-vector product, complex rectangular matrix (zgbwv) Matrix-vector product, complex rectangular matrix (zgbwv) Rank-1 update, complex rectangular matrix, (zgbwv) Rank-1 update, complex rectangular matrix, conjugated vector (zgeru) Rank-1 update, complex rectangular matrix, capteme Matrix-vector product, two real rectangular matrix (dsymm) real symmetric matrix, one real rectangular matrix (dsymm) one real triangular matrix, one complex rectangular matrix (dtrmm) Matrix-matrix product, two complex rectangular matrix (zbemm) one complex Hermitian matrix, one complex rectangular matrix (zshem) one complex symmetric matrix, one complex rectangular matrix (zshem) one complex symmetric matrix, one complex rectangular matrix (zshem) one complex symmetric matrix, one complex rectangular matrix (zshem) one complex symmetric matrix, one complex rectangular matrix (m01esc d01wcc d01xbc e01dac e02dcc f06pbc f06pbc f06sbc f06sbc f06sbc f06spc f06ycc f06ycc f06yfc f06zcc f06zcc g05eac g05eac g05ecc g05cc g

standard errors of parameters of a general linear	regression model for given constraints	g02dkc
		-
Computes estimable function of a general linear	-	g02dnc
	regression, standard <i>M</i> -estimates	g02hac
Interpolating functions, method of	Renka and Cline, two dimensions	e01sac
NAG memory freeing function for use with	Renka and Cline method	e01szc
Real sparse unsymmetric matrix	reorder routine	f11zac
Real sparse symmetric matrix	reorder routine	f11zbc
- •	resets end of range for d02pdcf	d02pwc
		-
analysis model, factor loadings, communalities and		g03cac
	residuals and influence statistics	g02fac
time series, noise spectrum, bounds, impulse	response function and its standard error	g13cgc
Solution of real sparse unsymmetric linear system,	RGMRES , CGS or Bi-CGSTAB method,	f11dcc
Solution of real sparse unsymmetric linear system.	RGMRES, CGS, or Bi-CGSTAB method, Jacobi or	f11dec
simultaneous linear equations with multiple		f04adc
	-	f04arc
Solution of real simultaneous linear equations, one	-	
	right-hand sides, complex triangular (ztrsm)	f06zjc
Solves a system of equations with multiple	right-hand sides, real triangular coefficient (dtrsm)	f06yjc
	Robust regression, standard <i>M</i> -estimates	g02hac
	Robust estimation, median, median absolute deviation,	g07dac
	Robust estimation, <i>M</i> -estimates for location and scale	g07dbc
Calculates a	robust estimation of a correlation matrix, Huber's	g02hkc
		-
-	root of a complex number	a02dcc
ODEs, IVP, Adams method with	-	d02qfc
Computes orthogonal	rotations for loading matrix, generalized orthomax	g03bac
Computes Procrustes	rotations	g03bcc
observations to groups according to selected	rules (for use after g03dac)	g03dcc
	Runge-Kutta method, integration over range with	d02pcc
	Runge–Kutta method, integration over one step	-
	o , o	d02pdc
NAG memory freeing function for use with	-	d02ppc
smoothed data sequence, using	-	g10cac
	Safe range of floating-point arithmetic	X02AMC
Pseudo-random	sample from an integer vector	g05ejc
Computes a trimmed and winsorized mean of a single	sample with estimates of their variance	g07ddc
	sample autocorrelation function	g13abc
	sample spectrum using spectral smoothing by the	g13cbc
		•
	sample cross spectrum using spectral smoothing by the	g13cdc
scores, approximate Normal scores or exponential (g01dhc
Robust estimation, M -estimates for location and	scale parameters, standard weight functions	g07dbc
principal coordinate analysis, classical metric	scaling	g03fac
Performs non-metric (ordinal) multidimensional	scaling	g03fcc
by bicubic splines with automatic knot placement,	-	e02ddc
· - · ·	score coefficients (for use after g03cac)	g03ccc
		•
Produces standardized values (z -		g03zac
Ranks, Normal scores, approximate Normal		g01dhc
	Search a set of arbitrary objects for first or last match	m01fsc
	Selected eigenvalues and eigenvectors of real	f02ecc
	Selected eigenvalues and eigenvectors of complex	f02gcc
Allocates observations to groups according to	selected rules (for use after g03dac)	g03dcc
Allocates observations to groups according to	0	g03dcc
· · · ·	· · · · · · · · · · · · · · · · · · ·	0
1-D quadrature, adaptive, infinite or		d01smc
	semi-infinite interval, weight function $\cos(\omega x)$	d01ssc
number generating functions to give repeatable	sequence	g05cbc
concreting functions to give non reportable		
generating functions to give non-repeatable	-	g05ccc
Complex conjugate of Hermitian	sequence	g05ccc c06gbc
Complex conjugate of Hermitian	sequence	c06gbc
Complex conjugate of Hermitian Complex conjugate of complex	sequence sequence	c06gbc c06gcc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian	sequence sequence sequence sequences	c06gbc c06gcc c06gqc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian	sequence sequence sequence sequences sequences to general complex sequences	c06gbc c06gcc c06gqc c06gsc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables,	sequence sequence sequence sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using	c06gbc c06gcc c06gqc c06gsc e04ucc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables,	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and	c06gbc c06gcc c06gqc c06gsc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables,	sequence sequence sequence sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using	c06gbc c06gcc c06gqc c06gsc e04ucc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints,	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and	c06gbc c06gcc c06gqc c06gsc e04ucc e04unc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum,	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality	c06gbc c06gcc c06gqc c06gsc e04ucc e04ucc g01ddc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple	c06gbc c06gcc c06gqc c06gsc e04ucc e04ucc g01ddc e04ccc f04adc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex Solution of real symmetric positive-definite	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple simultaneous linear equations (coefficient matrix	c06gbc c06gcc c06gqc c06gsc e04ucc e04ucc g01ddc e04ccc f04adc f04agc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex Solution of real symmetric positive-definite Solution of real	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix	c06gbc c06gcc c06gcc c06gsc e04ucc e04ucc g01ddc e04ccc f04adc f04agc f04ajc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex Solution of real symmetric positive-definite Solution of real Solution of complex	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix	c06gbc c06gcc c06gqc c06gsc e04ucc e04ucc g01ddc e04ccc f04adc f04agc f04ajc f04ajc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex Solution of real symmetric positive-definite Solution of real Solution of complex Solution of real Solution of complex Solution of complex Solution of real	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations, one right-hand side	c06gbc c06gcc c06gqc c06gsc e04ucc g01ddc e04ccc f04adc f04agc f04ajc f04ajc f04akc
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Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex Solution of real symmetric positive-definite Solution of real Solution of real Solution of complex Solution of complex Solution of complex Hermitian postive-definite	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations, one right-hand side	c06gbc c06gcc c06gqc c06gsc e04ucc e04ucc g01ddc e04ccc f04adc f04agc f04ajc f04ajc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex Solution of real symmetric positive-definite Solution of real Solution of real Solution of complex Solution of complex Solution of complex Hermitian postive-definite	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations, one right-hand side simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix	c06gbc c06gcc c06gqc c06gsc e04ucc e04ucc g01ddc e04ccc f04adc f04agc f04ajc f04ajc f04akc f04acc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex Solution of real symmetric positive-definite Solution of real Solution of real Solution of complex Solution of complex Solution of real Solution of complex Hermitian postive-definite symmetric positive-definite variable-bandwidth	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations, one right-hand side simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix	c06gbc c06gcc c06gqc c06gsc e04ucc g01ddc e04ccc f04adc f04adc f04ajc f04akc f04acc f04acc f04akc
Complex conjugate of Hermitian Complex conjugate of complex Complex conjugate of multiple Hermitian Convert Hermitian Minimum, function of several variables, Minimum of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of a sum of squares, nonlinear constraints, Unconstrained minimum, Solution of complex Solution of real symmetric positive-definite Solution of real Solution of real Solution of complex Solution of complex Solution of real Solution of complex Hermitian postive-definite symmetric positive-definite variable-bandwidth	sequence sequence sequence sequences sequences sequences to general complex sequences sequential QP method, nonlinear constraints, using sequential QP method, using function values and Shapiro and Wilk's W test for Normality simplex algorithm, function of several variables using simultaneous linear equations with multiple simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix simultaneous linear equations, one right-hand side simultaneous linear equations (coefficient matrix simultaneous linear equations (coefficient matrix	c06gbc c06gcc c06gqc c06gsc e04ucc e04ucc g01ddc e04ccc f04adc f04adc f04ajc f04akc f04acc f04acc f04acc

Keywords in Context

Discrete sine tran	sform c0)6hac
Discrete quarter-wave sine tran	sform c0)6hcc
÷	value decomposition: See SVD	
quadrature, adaptive, finite interval, allowing for singular)1slc
finite interval, weight function with end-point singular)1spc
$\sinh x$		l0abc
$\operatorname{arc} \sinh x$		l1abc
)1aac)2AKC
		l0cac
		L3cbc
		L3cdc
smoothed data sequence, using running median smoothe	· · · ·	l0cac
series, smoothed sample spectrum using spectral smoothi		l3cbc
smoothed sample cross spectrum using spectral smoothi		l3cdc
Sort a se	t of real numbers (Quicksort) m0)1cac
Sort a se	t of arbitrary objects (Quicksort) m0)1csc
Sort a se	t of arbitrary objects (stable sort) m0)1ctc
Sort a set of arbitrary objects (stable sort))1ctc
list into ascending or descending order (chain sort))1cuc
Order a set of arbitrary objects (rank sort))1dsc
_		l1dac
-		l1dcc
_		l1dec l1jac
		lijac lijcc
		l1jec
		l1zac
-		1zbc
Kendall/Spearma	an non-parametric rank correlation coefficients, go)2brc
Least-squares polynomial fit, special of	lata points (including interpolation) e0)2afc
Approximation of special f	unctions s	
coherency, bounds, univariate and bivariate (cross) spectra	g1	l3cec
phase, bounds, univariate and bivariate (cross) spectra		l3cfc
time series, smoothed sample spectrum using spectral	· · · · ·	l3cbc
time series, smoothed sample cross spectrum using spectral	· · · · ·	l3cdc
Univariate time series, smoothed sample spectrum	· · · · ·	13cbc
Multivariate time series, smoothed sample cross spectrum Multivariate time series, cross amplitude spectrum	· · · · ·	l3cdc l3cec
· · · ·		L3cgc
Interpolating functions, cubic spline in)1bac
Interpolating functions, fitting bicubic spline , d	· /)1dac
Least-squares curve cubic spline fit)2bac
Evaluation of fitted cubic spline , for	inction only e0)2bbc
Evaluation of fitted cubic spline , fu	unction and derivatives e0)2bcc
Evaluation of fitted cubic spline , d	efinite integral e0)2bdc
	, 1)2bec
Evaluation of a fitted bicubic spline at	•)2dec
Evaluation of a fitted bicubic spline at	-)2dfc
B-splines	e0	
Least-squares surface fit by bicubic splines w	· · · · · · · · · · · · · · · · · · ·)2dcc)2ddc
)2dcc
-	· · · · · · · · · · · · · · · · · · ·	l3eac
		3ebc
· -	· · · · · ·	l3ecc
	· · · · · · · · · · · · · · · · · · ·	l3edc
Computes Mahalanobis squared	distances for group or pooled g0)3dbc
Multivariate time series, cross amplitude spectrum, ${\bf squared}$	coherency, bounds, univariate and bivariate g1	l3cec
)2adc
)2afc
-	· · · · · · · · · · · · · · · · · · ·)2bac
)2bec
-	· ·)2dcc
Least-squares QP problem or linearly-constrained linear least-squares	v 1)2ddc)4ncc
Covariance matrix for nonlinear least-squares	-)4ncc)4ycc
Unconstrained minimum of a sum of squares,	-)4fcc
)4gbc
	-)4unc
CGS, or Bi-CGSTAB method, Jacobi or SSOR pr		l1dec

conjugate gradient/Lanczos method, Jacobi or	SSOR preconditioner (Black Box)	f11jec
Computes probabilities for the	standard Normal distribution	g01eac
Computes deviates for the	standard Normal distribution	g01fac
Estimates and	standard errors of parameters of a general linear	g02dkc
of a general linear regression model and its		g02dnc
	standard errors of parameters of a general linear model	-
	. 0	0 0
function of a generalized linear model and its		g02gnc
0	standardM-estimates	g02hac
randomized design, treatment means and	standard errors	g04bbc
complete factorial design, treatment means and	standard errors	g04cac
median, median absolute deviation, robust	standard deviation	g07dac
M-estimates for location and scale parameters,		g07dbc
bounds, impulse response function and its	-	g13cgc
	standardized residuals and influence statistics	g02fac
		0
	standardized values (z-scores) for a data matrix	g03zac
	statistic for equality of within-group covariance	g03dac
Computes <i>t</i> -test	statistic for a difference in means between two Normal	g07cac
Calculates standardized residuals and influence	statistics	g02fac
χ^2	statistics for two-way contingency table	g11aac
	stiff IVP, BDF method, until function of solution is	d02ejc
Computes probabilities for		g01ebc
1 1	Student's t-distribution	0
1		g01fbc
	sum of squares, combined Gauss–Newton and modified	e04fcc
	sum of squares, combined Gauss–Newton and	e04gbc
	\mathbf{sum} of squares, nonlinear constraints, sequential QP	e04unc
Computes a five-point	summary (median, hinges and extremes)	g01alc
	Summation of Series	c06
Least-squares	surface fit by bicubic splines with automatic knot	e02dcc
-	surface fit by bicubic splines with automatic knot	e02ddc
Computes Kaplan-Meier (product-limit) estimates of	· -	g12aac
computes Rapian-weier (product-mint) estimates of	SVD of real matrix	f02wec
	SVD of complex matrix $G(x)$	f02xec
Fresnel integral		s20acc
	$\mathbf{symmetric}$ positive-definite variable-bandwidth matrix	f01mcc
All eigenvalues of real	symmetric matrix	f02aac
All eigenvalues and eigenvectors of real	symmetric matrix	f02abc
of the form $Ax = \lambda Bx$ where A and B are	symmetric and B is positive-definite	f02adc
of the form $Ax = \lambda Bx$ where A and B are	symmetric and B is positive-definite	f02aec
LL^T factorization and determinant of real		f03aec
	symmetric positive-definite simultaneous linear	f04agc
	symmetric positive-definite variable-bandwidth	f04mcc
	• •	
	symmetric matrix, incomplete Cholesky factorization	f11jac
-	symmetric linear system, conjugate gradient/Lanczos	f11jcc
Solution of real sparse	symmetric linear system, conjugate gradient/Lanczos	f11jec
Matrix-vector product, real	symmetric matrix (dsymv)	f06pcc
Matrix-vector product, real	symmetric band matrix (dsbmv)	f06pdc
	symmetric packed matrix (dspmv)	f06pec
	symmetric packed matrix (dspr2)	f06psc
		-
	symmetric matrix (dsyr2)	f06prc
	symmetric packed matrix (dspr)	f06pqc
	symmetric matrix (dsyrr)	f06ppc
	symmetric matrix, one real rectangular matrix (dsymm)	f06ycc
Rank- k update of a real	symmetric matrix (dsyrk)	f06ypc
Rank- $2k$ update of a real	symmetric matrix (dsyr2k)	f06yrc
-	symmetric matrix reorder routine	f11zbc
-	symmetric matrix, one complex rectangular (zsymm)	f06ztc
Rank- k update of a complex		f06zuc
Rank- $2k$ update of a complex	•	f06zwc
	Symmetrised elliptic integral of 1st kind $R_F(x, y, z)$	s21bbc
	Symmetrised elliptic integral of 2nd kind $R_D(x, y, z)$	s21bcc
	Symmetrised elliptic integral of 3rd kind $R_J(x, y, z, r)$	s21bdc
Degenerate	symmetrised elliptic integral of 1st kind $R_C(x, y)$	s21bac
	System of equations, real triangular matrix (dtrsv)	f06pjc
	System of equations, real triangular band matrix (dtbsv)	f06pkc
	System of equations, real triangular packed (dtpsv)	f06plc
	System of equations, road strangular pacted (dspb)	f06sjc
		•
	System of equations, complex triangular (ztbsv)	f06skc
	System of equations, complex triangular (ztpsv)	f06slc
	system of nonlinear equations using function values only	c05tbc
	system of nonlinear equations using 1st derivatives	c05ubc
	system, RGMRES, CGS or Bi-CGSTAB method,	f11dcc

Solution of real sparse unsymmetric linear system, RGMRES, CGS, or Bi-CGSTAB method,	f11dec
Solution of real sparse symmetric linear system , conjugate gradient/Lanczos method,/	f11jcc
Solution of real sparse symmetric linear system, conjugate gradient/Lanczos method, Jacobi or	f11jec
Solves a $system$ of equations with multiple right-hand $(dtrsm)$	f06yjc
Solves a system of equations with multiple right-hand (\texttt{ztrsm})	f06zjc
Real sparse unsymmetric linear systems, incomplete LU factorization	f11dac
Computes probabilities for Student's t-distribution	g01ebc
Computes deviates for Student's t-distribution	g01fbc
Computes t -test statistic for a difference in means between	g07cac
χ^2 statistics for two-way contingency table	g11aac
Computes upper and lower tail and probability density function probabilities for	g01eec
Complex tan	a02dlc
$\tanh x$	s10aac
$\operatorname{arc} \operatorname{\mathbf{tanh}} x$	s11aac
Computes test statistic for equality of within-group covariance	g03dac
Computes <i>t</i> - test statistic for a difference in means between two	g07cac
Shapiro and Wilk's W test for Normality	g01ddc
reference vector for ARMA time series model with following terms generation	g05hac
Univariate time series, sample autocorrelation function	g13abc
Univariate time series, partial autocorrelations from autocorrelations	g13acc
Multivariate time series, estimation of multi-input model	g13bec
Multivariate time series, state set and forecasts from fully specified	g13bjc
Univariate time series, smoothed sample spectrum using spectral	g13cbc
Multivariate time series, smoothed sample cross spectrum using	g13cdc
Multivariate time series, cross amplitude spectrum, squared	g13cec
Multivariate time series, gain, phase, bounds, univariate and	g13cfc
Multivariate time series, noise spectrum, bounds, impulse response	g13cgc
Kalman filters, square root, covariance, time varying	g13eac
Kalman filters, square root, covariance, time invariant	g13ebc
Kalman filters, square root, information, time varying	g13ecc
Kalman filters, square root, information, time invariant	g13edc
Allocates memory to transfer function model orders	g13byc
Freeing function for the transfer function model orders structure	g13bzc
Fast Fourier transform: See Fourier transform	0
Single 1-D real discrete Fourier transform	c06eac
Single 1-D Hermitian discrete Fourier transform	c06ebc
Single 1-D complex discrete Fourier transform	c06ecc
2-D complex discrete Fourier transform	c06fuc
Discrete sine transform	c06hac
Discrete cosine transform	c06hbc
Discrete quarter-wave sine transform	c06hcc
Discrete quarter-wave cosine transform	c06hdc
$1/(x-c)$, Cauchy principal value (Hilbert transform)	d01sqc
Kalman filters, observer Hessenberg transformation	g13ewc
Kalman filters, controller Hessenberg transformation	g13exc
Multiple 1-D real discrete Fourier transforms	c06fpc
Multiple 1-D Hermitian discrete Fourier transforms	c06fqc
Multiple 1-D complex discrete Fourier transforms	c06frc
Transportation problem	h03abc
cross spectrum using spectral smoothing by the trapezium frequency (Daniell) window	g13cdc
sample spectrum using spectral smoothing by the trapezium frequency (Daniell) window	g13cbc
Matrix-vector product, real triangular matrix (dtrmv)	f06pfc
Matrix-vector product, real triangular band matrix (dtbmv)	f06pgc
Matrix-vector product, real triangular packed matrix (dtpmv)	f06phc
System of equations, real triangular matrix (dtrsv)	f06pjc
System of equations, real triangular band matrix (dtbsv)	f06pkc
System of equations, real triangular packed matrix (dtpsv)	f06plc
Matrix-vector product, complex triangular matrix (ztrm v)	f06sfc
Matrix-vector product, complex triangular band matrix (ztbmv)	f06sgc
Matrix-vector product, complex triangular packed matrix (ztpmv)	f06shc
System of equations, complex triangular matrix (ztrsv)	f06sjc
System of equations, complex triangular band matrix (ztbsv)	f06skc
System of equations, complex triangular band matrix (2000) System of equations, complex triangular packed matrix (2tpsv)	f06slc
Matrix-matrix product, one real triangular matrix, one real rectangular matrix (dtrmm)	f06yfc
equations with multiple right-hand sides, real triangular coefficient matrix (dtrsm)	f06yjc
Matrix-matrix product, one complex triangular matrix, one complex rectangular (ztrmm)	f06zfc
equations with multiple right-hand sides, complex triangular coefficient matrix (ztrsm)	f06zjc
Computes a trimmed and winsorized mean of a single sample with	g07ddc
Addition of two complex numbers	a02cac
Multiplication of two complex numbers	a02ccc
Quotient of two complex numbers	a02cdc

1 0	two complex numbers	a02cgc
	two complex numbers	a02chc
Circular convolution or correlation of x^2 statistics for	two real vectors two-way contingency table	c06ekc g11aac
Rank-1 update, complex rectangular matrix,		f06smc
1 / 1 O /	Unconstrained minimum, simplex algorithm, function	e04ccc
	Unconstrained minimum, pre-conditioned conjugate	e04dgc
	Unconstrained minimum of a sum of squares,	e04fcc
Crital for talian manageritana ta angil	Unconstrained minimum of a sum of squares,	e04gbc
Switch for taking precautions to avoid Pseudo-random real numbers	undernow uniform distribution over (0,1)	XO2DAC g05cac
	uniform distribution over (<i>a</i> , <i>b</i>)	g05dac
Pseudo-random integer from	uniform distribution	g05dyc
	unitary matrices, compute QB or $Q^H B$ after	f01rdc
Operations with	unitary matrices, form columns of Q after	f01rec
	Univariate time series, sample autocorrelation function	g13abc
	Univariate time series, partial autocorrelations from Univariate time series, smoothed sample spectrum	g13acc g13cbc
Multivariate time series, gain, phase, bounds,		g13cfc
amplitude spectrum, squared coherency, bounds,		g13cec
-	unsymmetric linear systems, incomplete LU	f11dac
	unsymmetric linear system, RGMRES, CGS	f11dcc
	unsymmetric linear system, RGMRES, CGS	f11dec
and general linear regression model from	unsymmetric matrix reorder routine	f11zac g02ddc
0	upper and lower tail and probability density function	g02uuc g01eec
functions, cubic spline interpolant, one	• •	e01bac
piecewise cubic Hermite, one	variable	e01bec
computed by e01bec, function only, one		e01bfc
by e01bec, function and 1st derivative, one		e01bgc
computed by e01bec, definite integral, one Mean, variance, skewness, kurtosis etc, one		e01bhc g01aac
	variable, non raw data variable to a general linear regression model	g02dec
	variable from a general linear regression model	g02dfc
\ldots general linear regression model for new dependent		g02dgc
factorization of real symmetric positive-definite		f01mcc
Solution of real symmetric positive-definite conjugate gradient algorithm, function of several	variable-bandwidth simultaneous linear equations	f04mcc e04dgc
	variables, quasi-Newton algorithm, simple bounds,	e04gc e04jbc
	variables, quasi-Newton algorithm, simple bounds,	e04kbc
Mean,	variance, skewness, kurtosis etc, one variable, from	g01aac
•	variance, randomized block or completely randomized	g04bbc
	variance, complete factorial design, treatment means	g04cac
mean of a single sample with estimates of their squared distances for group or pooled	variance variance-covariance matrices (for use after g03dac)	g07ddc g03dbc
Performs canonical	(° °)	g03acc
Evaluation of a fitted bicubic spline at a		e02dec
Set up reference	vector for multivariate Normal distribution	g05eac
-	vector for generating pseudo-random integers, Poisson	g05ecc
Set up reference Pseudo-random permutation of an integer	vector for generating pseudo-random integers, binomial	g05edc g05ehc
Pseudo-random permutation of an integer Pseudo-random sample from an integer		g05ejc
	vector from supplied cumulative distribution function	g05exc
Pseudo-random integer from reference		g05eyc
Pseudo-random multivariate Normal		g05ezc
	vector of pseudo-random numbers from a beta	g05fec
	vector of pseudo-random numbers from a gamma vector for ARMA time series model with	g05ffc g05hac
Circular convolution or correlation of two real		c06ekc
	W test for Normality	g01ddc
1-D quadrature, adaptive, finite interval,		d01snc
	weight function with end-point singularities of	d01spc
I-D quadrature, adaptive, finite interval, 1-D quadrature, adaptive, semi-infinite interval,	weight function $1/(x - c)$, Cauchy principal value weight function $\cos(\omega x)$ or $\sin(\omega x)$	d01sqc d01ssc
robust estimation of a correlation matrix, Huber's	-	g02hkc
for location and scale parameters, standard	÷	g07dbc
Computes (optionally	weighted) correlation and covariance matrices missing	g02bxc
	Wilk's W test for Normality	g01ddc
smoothing by the trapezium frequency (Daniell)		g13cbc
smoothing by the trapezium frequency (Daniell) Computes a trimmed and	window winsorized mean of a single sample with estimates of	g13cdc g07ddc
		0

Zero of continuous function in given interval,	c05sdc
IVP, Adams method, until function of solution is zero, intermediate output	d02cjc
IVP, BDF method, until function of solution is zero, intermediate output (simple driver)	d02ejc
All zeros of complex polynomial, modified Laguerre method	c02afc
All zeros of real polynomial, modified Laguerre method	c02agc