

BROWN: Frequency Tables for Brown Scan Forms

(for surveys with up to 160 responses)

May 1995

Information
Technologies

Please Note: DO NOT USE the "Student ID Number"
section for Social Security Numbers.

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Overview

The BROWN program processes the brown scan forms used for surveys having 160 or fewer items with responses ranging from A–E. The program produces a frequency table, mean response, and standard deviation for each item, based on the number of actual responses to that item. You can request a printed listing or a computer file with the actual responses on each form. The program can analyze a single set of forms or multiple sets analyzed independently or together.

Layout of the forms

Each brown scan form is divided into four fields: the *Name* field (alphabetic), the *Student Number* field (numeric), the *Course and Section Number* field (numeric), and the *Response* field of up to 160 items. For processing, each set of Response Forms must be preceded by a specially marked blue form called a Processing Control Form or Separator Form. Both the brown and blue forms are available from Central Stores (brown: stock number UD 9080820; blue: stock number UD 9080825).

All forms must be filled in using a #2 pencil. The scanner can read only one mark per response line. The Brown program will record a 0 for a line with multiple marks. Response lines that are not filled in will also be recorded as 0.

Response Form

A respondent marks his or her responses in the *Response* field. He or she can also add labeling or identifying information in the *Name*, *Student Number*, and *Course and Section Number* fields. You can select processing options that take information respondents mark in the various fields and transfer it to printed or computer file output.

Processing Control Form

The blue form is identical to the brown form, but adds another field, the *For Instructor Use Only* field (numeric). In this field, you specify processing options (e.g., frequency tables, computer file output). You can also use the *Name*, *Student Number*, and *Course and Section Number* fields to specify optional labeling information for printed and computer file output. When multiple sets of respondent forms are analyzed in the same computer run, the first set must be preceded by a Processing Control Form and sets must be separated by a Separator Form (described below). The *Response* field is not used on the Processing Control Form.

If you want to request a computer file containing the data from your survey

The first scan form must be a blue Processing Control Form. Two options on the form allow you to create a computer file containing the contents of the actual respondent forms. These produce a narrow-format (80 columns/line) or wide-format (226 columns/line) computer file. If you have several sets of respondents' forms in a single run, their contents will all be copied into a single file. If you want to name the file, you must specify the file name information on the *first* Processing Control Form.

Narrow-format file (80 columns)

You can select which of the fields to have transferred to the computer file. The number of responses you request may exceed the capacity of a line (also called a record) in the computer file. In that case, a second, or possibly third, record is written for each respondent. The layout of the records is determined by your choice of which fields to transfer and how many items there are. The specifics are given in Appendix A: *Layout of the narrow-format file*. The narrow-format computer file is always named "brownr80.data.bin#". The *bin#* part of the file name is assigned by the I/O staff.

Wide-format file (226 columns)

The *Name, Student Number, and Course and Section Number* fields and all 160 items in the *Response* field are transferred to one line (i.e., record) of the computer file. This file is more difficult to edit and to print than the narrow-format file. However, it is simpler to use as input to statistical packages. This is because each column on every line of the file corresponds to the same information. For example, column 67 is always the response to item 1. The specifics are given in Appendix B: *Layout of the wide-format file*. In contrast to the narrow-format file, you may specify a unique name for the wide-format file by marking columns 1-3 of the *Extra Options* field, as described below.

How to mark a Processing Control Form

In the box labeled "For Instructor Use Only" on the Processing Control Form, specify the processing options for your surveys and whether you want to receive a printed listing or a computer file with the results. Listed below are your choices and the results they will produce.

Last Number Used: Maximum item number

Mark the highest item number used on the respondents' forms, from 1 to 160. If the number is a single digit such as 7, mark it as 007; if the number is a double digit such as 54, mark it as 054. If these columns are blank, the program assumes a value of 72.

Standard Options

Standard Option 1: Request a Frequency table

Mark 0 or leave blank if you do not want a frequency table.

Mark 1 to request a printed table. You can request an optional label for the table in *Standard Option 3*.

Standard Option 2: Request a Narrow-format computer file

Mark 0 or leave blank if you do not want this computer file.

Mark 1-6 to request the file. The contents of the file depend upon the option you choose. Consult the table below for the results you will receive for each option.

Mark	Name Field	Student Number Field	Section Number Field	Extra Options Field	Response Field
1	No	No	No	No	Yes
2	Yes	No	No	No	Yes
3	No	Yes	No	No	Yes
4	Yes	Yes	No	No	Yes
5	No	Yes	Yes	Yes	Yes
6	Yes	Yes	Yes	Yes	Yes

Appendix A shows you how to interpret the contents of the file. The Narrow-format computer file is always named "brownr80.data.bin#". The *bin#* part of the file name is assigned by the I/O staff.

Standard Option 3: Request a Frequency table label

Mark 0 or leave blank if you do not want to label the frequency table.

Mark 1 to indicate that frequency tables be labeled with information from the first brown Response Form of a set.

Mark 2 to indicate that frequency tables be labeled with information from the blue Processing Control and Separator Forms.

Note: Enter labeling information in the Name, Student Number, Course Number, and Section Number fields.

Standard Option 4: Not used

Standard Option 5: Not used

Standard Option 6: Request printed sheets

Mark 0 or leave blank if you do not want to have the contents of the Response Forms printed.

Mark 1 to have the contents of each Response Form printed.

Standard Option 7: Request a wide-format file

Mark 0 or leave blank if you do not want this computer file.

Mark 1 to generate a computer file consisting of one line (record) per respondent consisting of the entire *Name, Student Number, Course and Section Number, and Response* fields.

The file will be named "brown nnn .data.bin#". In the file name, nnn is replaced with the 3 digits you enter into the Extra Options field, columns 1-3. If you leave these columns blank, the file will be named "brown000.data.bin#". The *bin#* part of the file name is assigned by the I/O staff.

Appendix B shows you how to interpret the contents of this file.

Standard Option 8: Request cyclic processing

Mark 0 or leave blank if the Response Forms are to be processed only once.

Mark 1 to have the Response Forms processed twice. First, each set is processed separately. Then, all separator sheets are ignored and all the Response Forms are processed as one set. Only the frequency table processing is repeated. You must have marked "1" in Standard Option 1 to request the frequency table.

How to mark a Separator Form

To submit more than one set of Response Forms in a single run, place a blue scan form at the end of the first set of Response Forms. This form acts as a *Separator* form between sets, but is not analyzed as a Response Form. It may contain labeling information in the Name, Student Number, Course Number, and Section Number areas.

Preparing the scan job for submission

Stack all forms face up with the same orientation.

Fully erase stray marks.

Do not attach paper clips or staples.

Do not fold the forms.

At the top right corner of the first Control Form, write the word **CONTROL** next to the printed words *Course/Section* to identify the Processing Control Form.

Order of scan forms

To submit a single set of Response Forms, arrange the forms in the following order:

Processing Control Form (blue)
Response Forms (brown)

To submit multiple sets of Response Forms, arrange the forms in the following order:

Processing Control Form (blue)
First set of Response Forms (brown)
Separator Form (blue)
Second set of Response Forms (brown)
Separator Form (blue)
etc.

Submitting the scan job for processing

1. Obtain a **Frequency Scan Request Card** at the I/O Counter in 004 Smith Hall. Fill in your UNIX username or user number and the other requested information. Submit this card with your forms. The I/O clerk will give you a "bin slip" containing a unique number to identify your job.
2. After your job is processed, your forms and printed results will be returned to the I/O counter. If you selected options on the Processing Control Form to create a computer file, the file is placed in your home directory on your UNIX account.

Appendix A: Layout of the narrow-format computer file

The layout of the narrow-format computer file depends upon the option you marked in column 2 of the Processing Control Form's Standard Options field. Each line of the file is 80 columns wide; the file contains as many lines as necessary to display all the information in the Response field for each respondent (i.e., there may be two or three lines, each 80 columns wide, for each respondent). Each line of the file contains a sequence number in column 80 indicating how many lines correspond to an individual respondent form. For example, if each form produces three lines in the file, column 80 would be numbered 1, 2, and 3 for each form. If you submitted Separator Sheets as part of your scan job, the images of the Separator Sheets will also be part of the narrow-format computer file.

The following charts show what information appears in each column of the computer file you receive. The contents of the file change according to the option you selected in column 2.

Processing Control Form's "Standard Options" field, column 2, option 1

<i>Computer file columns</i>	<i>Information (from Response Form)</i>
1-72	Response field values (up to 72 single-digit values a line)
80	Sequence number

Processing Control Form's "Standard Options" field, column 2, option 2

<i>Computer file columns</i>	<i>Information (from Response Form)</i>
1-20	Name field
21-72	Response field values (up to 52 single-digit values a line)
73-77	Course and Section Number fields
80	Sequence number

Processing Control Form's "Standard Options" field, column 2, option 3

<i>Computer file columns</i>	<i>Information (from Response Form)</i>
1-9	Student Number field
10-72	Response field values (up to 63 single-digit values a line)
73-77	Course and Section Number fields
80	Sequence number

Processing Control Form's "Standard Options" field, column 2, option 4

<i>Computer file columns</i>	<i>Information (from Response Form)</i>
1-20	Name field
21-29	Student Number field
30-72	Response field values (up to 43 single-digit values a line)
73-77	Course and Section Number fields
80	Sequence number

Processing Control Form's "Standard Options" field, column 2, option 5

<i>Computer file columns</i>	<i>Information (from Response Form)</i>
1-9	Extra Options field
10-11	Section Number field
12-20	Student Number field
21-72	Response Field values (up to 52 single-digit values a line)
73-77	Course and Section Number fields
80	Sequence number

Processing Control Form's "Standard Options" field, column 2, option 6

<i>Computer file columns</i>	<i>Information (from Response Form)</i>
1-20	Name field
21-29	Extra Options field
30-31	Section Number field
32-40	Student Number field
41-72	Response field values (up to 32 single-digit values a line)
73-77	Course and Section Number fields
80	Sequence number

Appendix B: Layout of the wide-format computer file

If you marked 1 in column 7 of the Processing Control Form's Standard Options field, a wide-format computer file will be placed in your UNIX account. Each line of the file is 226 columns wide and contains the information from one response sheet. The file also contains a record for each Separator Form you included. Also, if you marked 2 in column 3 of the Standard Options field to include labeling information from the control sheet, that information will be the first line of your computer file. The file is called brown000.data.bin# or brownnnn.data.bin# (if you marked columns 1-3 of the Extra Options field to give the file a unique name). The following chart shows what information appears in each column of the computer file you receive.

Processing Control Form's "Standard Options" field, column 7, option 1

<i>Computer file columns</i>	<i>Information (from Response Form)</i>
24 - 32	Extra Options field
33 - 41	Student Number field
42 - 44	Course Number field
45 - 46	Section number
47 - 66	Name field
67 - 226	Response field

Note: Columns 1-23 are blank because the program reserves this space for the Control and Key section (the Control and Key section is blank on the response sheets).

Appendix C: Sample Processing Control Form, Response Form, and results

Attached to this document are a sample Processing Control Form and a Response Form followed by the results you would receive if you chose the options indicated on the Processing Control Form.

On the sample Processing Control Form, the instructor indicated that the last number used on the response form was 33. That person also requested:

- a frequency table (shown on page 3 of the sample results pages)
- a narrow-format computer file (shown on page 1 of the sample results pages as "Punch Request") containing the information from the Name, Student ID Number, Response, Course and Section Number fields, followed by a sequence number. This file will be sent to her UNIX account.
- a frequency table label with information from the blue Processing Control Form (The label—Water Quality, in this case—is shown on page 3 of the results pages.)
- a printed copy of each respondent's answers (shown on page 2 of the results).

The Response Form matches the the third set of responses shown on page 2 of the sample results pages. Notice that for item 5, the respondent has marked two answers and for item 15, the respondent has chosen no answer. In both cases, the Brown program records the responses as 0.

For help with filling out scan forms or submitting them, contact the Help Desk through e-mail at consult@strauss.udel.edu or call 831-6000.

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Program to process BROWN five-response form

Control Information entered:

33 Last number used

1 Frequency count table (0=no, 1=yes)

4 Punch request (0=no, 1-6=yes)

2 Print label information (0=no, 1-2=yes)

1 Print sheets (0=no, 1=yes)

0 Save file (0=no, 1=yes)

0 Cyclic processing request (0=one cycle, 1=two cycles)

**NOTE - Zero will be punched and printed for missing values and multiple answers.

Number of scan forms processed (rejects not included) 11

Output from print request, Standard Options 6=1

BLUE form

HENLEY JOHN 1111111124612
124345124322124343511253321423145

LENON ERIC 2222222224612
523254313415331224232532314555121

GRANT PAUL 3333333324612
124502311354230132511315452415253

CLAPTON ROBERT 4444444424612
324132542512332410423511132442121

STEVENSON ROBERT 5555555524612
112455324312232412413152441354123

HEMINGWAY ERNEST 6666666624612
153521354241532513331125432443223

POE EDGAR 7777777724612
351432125534124235213332121432534

TWAIN MARK 8888888824612
121352341315234535211241425013124

DOYL E CONAN 9999999924612
531324213413555533214421253341123

SIMON STEVE 1111112224612
123525141235122331141512534313235

Frequency of Response

Total forms in set: 10

24612

WATER

QUALITY

ITEM	Responses (Raw counts)					Total Responses	Mean	Standard Deviation	Responses (Percentage)				
	1	2	3	4	5				1	2	3	4	5
1	6	0	2	0	2	10	2.20	1.687	60.0	0.0	20.0	0.0	20.0
2	1	6	1	0	2	10	2.60	1.350	10.0	60.0	10.0	0.0	20.0
3	3	1	3	3	0	10	2.60	1.265	30.0	10.0	30.0	30.0	0.0
4	1	1	3	2	3	10	3.50	1.354	10.0	10.0	30.0	20.0	30.0
5	0	3	2	1	3	9	3.44	1.333	0.0	33.3	22.2	11.1	33.3
6	1	4	0	2	3	10	3.20	1.549	10.0	40.0	0.0	20.0	30.0
7	3	1	5	0	1	10	2.50	1.269	30.0	10.0	50.0	0.0	10.0
8	3	3	0	3	1	10	2.60	1.506	30.0	30.0	0.0	30.0	10.0
9	3	1	2	3	1	10	2.80	1.476	30.0	10.0	20.0	30.0	10.0
10	0	2	4	2	2	10	3.40	1.075	0.0	20.0	40.0	20.0	20.0
11	5	1	2	1	1	10	2.20	1.476	50.0	10.0	20.0	10.0	10.0
12	1	3	1	2	3	10	3.30	1.494	10.0	30.0	10.0	20.0	30.0
13	3	3	2	0	2	10	2.50	1.509	30.0	30.0	20.0	0.0	20.0
14	0	3	6	0	1	10	2.90	0.876	0.0	30.0	60.0	0.0	10.0
15	1	4	0	3	1	9	2.89	1.364	11.1	44.4	0.0	33.3	11.1
16	1	2	2	2	3	10	3.40	1.430	10.0	20.0	20.0	20.0	30.0
17	3	1	5	1	0	10	2.40	1.075	30.0	10.0	50.0	10.0	0.0
18	1	2	3	1	2	9	3.11	1.364	11.1	22.2	33.3	11.1	22.2
19	1	4	1	2	2	10	3.00	1.414	10.0	40.0	10.0	20.0	20.0
20	6	1	2	1	0	10	1.80	1.135	60.0	10.0	20.0	10.0	0.0
21	5	1	3	1	0	10	2.00	1.155	50.0	10.0	30.0	10.0	0.0
22	2	2	2	1	3	10	3.10	1.595	20.0	20.0	20.0	10.0	30.0
23	3	2	2	1	2	10	2.70	1.567	30.0	20.0	20.0	10.0	20.0
24	3	4	1	0	2	10	2.40	1.506	30.0	40.0	10.0	0.0	20.0
25	2	1	2	4	1	10	3.10	1.370	20.0	10.0	20.0	40.0	10.0
26	1	3	3	1	2	10	3.00	1.333	10.0	30.0	30.0	10.0	20.0
27	3	3	1	2	1	10	2.50	1.434	30.0	30.0	10.0	20.0	10.0
28	0	0	3	5	1	9	3.78	0.667	0.0	0.0	33.3	55.6	11.1
29	3	1	1	3	2	10	3.00	1.633	30.0	10.0	10.0	30.0	20.0
30	1	2	4	1	2	10	3.10	1.287	10.0	20.0	40.0	10.0	20.0
31	6	3	0	0	1	10	1.70	1.252	60.0	30.0	0.0	0.0	10.0
32	0	6	2	1	1	10	2.70	1.059	0.0	60.0	20.0	10.0	10.0
33	2	0	4	2	2	10	3.20	1.398	20.0	0.0	40.0	20.0	20.0