General Computer Science for Engineers CISC 106 Lecture 12

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Lecture Overview

- Midterm in one week (3/18)
- Review next Tuesday (3/17 @ 4:30pm)
- Friday: Hand out review sheet
- Changing your shell
- Matrix loops cont.

What is the return value of this function G, for the following code?

- x = 3;
- function output = G(x)
- output = x^2;
- End
- A. output
- B. 9
- C. 3
- D. x^2
- E. None of the above

What are the input parameters for this function?

- function [output, output2] = hi()
- fprintf('Hello World\n')
- [output, output2] = [23];
- End
- A. input
- B. output
- C. 'Hello World'
- D. 0
- E. None of the above

Changing your shell

- Go to <u>http://udel.edu/network</u>
- Sign in and choose: Change your UNIX Login Shell
- You are recommended by the department to use the csh shell
- Personally, I use the bash shell

Matrix looping cont.

Note: this code is found on the course website under Examples

function [output] = change8to9(inputMatrix) %changes the first 8 in each row to a 9 in a matrix and returns that altered matrix %input: matrix %output: matrix lengths = size(inputMatrix); %get size of matrix and store in 1x2 array fprintf('size of the matrix m by n is ') disp(lengths) for m = 1:lengths(1) for n = 1:lengths(2) if (inputMatrix(m,n) == 8) %if that position equals an 8 inputMatrix(m,n) = 9; %change that position in the matrix to a 9 using an assignment statement break; %break out of this inner FOR loop end %ends the IF end %ends the inner FOR loop end %ends the outer FOR loop output = inputMatrix; %assign the matrix to the output value (or in other words, "return the (possibly) altered matrix") end %end the function

For loop and break statement

- break; lets us stop a for loop before it would normally stop
- However, break; statement makes for unclear code and should be avoided
- What to use instead?
- While or do loop
- Next lecture

Conclusion

- Understand what every function's input and output parameters are
- Use a good shell. The command line, while slightly less user friendly, is much more powerful and ergonomic for almost all tasks
- Know how to loop through a vector, and by extension, a matrix (which can be thought of as a series of vectors side by side)