Throughout this semester we have been learning about a very unique and useful tool known as MATLAB. It is the perfect tool for people to solve complex equations; it is also a perfect tool to create complex equations. This is a high-level matrix/array language with control flow statements, functions, data structures, input/output, and object-oriented programming features. It allows both programming in the small to rapidly create quick and dirty throw-away programs, and programming in the large to create complete large and complex application programs. It includes high-level commands for two-dimensional and three-dimensional data visualization, image processing, animation, and presentation graphics. It also includes low-level commands that allow you to fully customize the appearance of graphics as well as to build complete Graphical User Interfaces on your MATLAB applications.

For my project I chose to design a game of rock, paper, and scissors using some of the functions that we have learned this year. I did two functions that are basically the same with some minor differences. To start both processes I began with using a ceil and rand so that the computers answer would be both random, and one of the given choices. Then I had the user input whichever choice they wanted. Next I converted the choices into variables by using an else, if function so that I could use them to get a winner. After I had the program display the users choice by again using else, if programs. Following that, I made the winning possibilities available to the computer. Finally, I finished the program by displaying to the user if they had won, lost, or tied. As stated already, the second process is very similar; the only main difference is that I used a switch, case function to replace one of the else, if functions.

Overall, MATLAB is a very powerful tool that continually grows in both its usefulness, and its capabilities. My project was a simple example of how MATLAB can be used to both have fun, and learn. However, I do not agree with having to use MATLAB over a graphing calculator or even doing problems by hand. MATLAB should only be used for complex equations, or fun games. MATLAB still has a long way to go as far as its in class capabilities, however, I enjoyed learning about it this semester and am excited to learn more.

MATLAB---First Process

% Generate computer’s choice

a=ceil(rand(1)\*3);

% Get user input

user=input(' enter 1 for rock \n enter 2 for paper \n enter 3 for scissors ');

% Display your choice

if a==1;

disp('I choose rock');

elseif a==2;

disp('I choose paper');

else

disp('I choose scissors');

end

% Display user's choice

if user==1;

disp('You choose rock');

elseif user==2;

disp('You choose paper');

else

disp('You choose scissors');

end

win=[0 2 1 ; 1 0 2 ; 2 1 0];

result=win(user,a);

% Display result

if result==0

disp('Settle for draw!');

elseif result==1

disp('You win!');

else

disp('You are a loser!');

end

MATLAB---Second Process

% Generate computer’s choice

a=ceil(rand(1)\*3);

% Get user input

user=input(' enter 1 for rock \n enter 2 for paper \n enter 3 for scissors ');

% Display your choice

switch(a)

case{1}

disp('I choose rock');

case{2}

disp('I choose paper');

case{3}

disp('I choose scissors');

end

% Display user's choice

switch(user)

case{1}

disp('You choose rock');

case{2}

disp('You choose paper');

otherwise

disp('You choose scissors');

end

win=[0 2 1 ; 1 0 2 ; 2 1 0];

result=win(user,a);

% Display result

if result==0

disp('Settle for draw!');

elseif result==1

disp('You win!');

else

disp('You are a loser!');

end

BIBLIOGRAPHY

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* All the TA’s for helping me out.