HW Assignment 1

Marshall Slagle
6/8/18

Program Code

```
#include <stdio.h>

//Marshall Slagle
//HW1_Marshall_Slagle.c


int main() //Main Method
{
    srand(time(NULL)); //initializes the random fuction for the main method.

    printf("\n\n   Welcome to the Game of:  \n    Rock, Paper, Sissors    \n\n");
//Welcome Message
    printf("Here's How You Play: \n\n"); //Rules
    printf("The objective is to beat the computers choice. \nA Rock can win by
crushing Sissors. \nPaper can win by covering Rock. \nScissors can cut Paper.\n\n");
//Rules
    printf("Enter the number 0 for Rock, 1 for Paper, and 2 for Scissors\n\n");
//Instructions on how to interact with the program

    printf(":-) Are you ready to play? :-)\n\n"); //Prompt message

    int counter = 0; //initializes counter to zero for the begining of the loop
    int userInput; //initializes userInput variable, to store user playing options
    int computerInput; //initializes computerInput, to store computer random generated
playing option
    int replay; //initializes replay variable to store input from user to determine if
player wants to replay

    while(counter != -1) //while loop that will continue, untill the replay value runs
the if statement to change the counter to -1
    {
        printf("\nPlease enter your move: \n"); //prompt to enter value of desired
move
        scanf("%d", &userInput); //stores userinput to variable

        int random = rand() % 3; //generates random number for computerInput
        computerInput = random; //stores random number value to the computerInput
variable

        if(userInput==0 && computerInput==0) //If Statemtent for if both played rock
        {
            printf("You played Rock. \nThe Computer also played Rock. \nNo one
wins.**"); //output message for both playing rock
        }
```

```
        if(userInput==0 && computerInput==1) //If Statement for user playing rock and
computer playing paper
        {
            printf("You played Rock. \nThe Computer played Paper. \nThe Computer
wins.**"); //output message for user playing rock and computer playing paper
        }
        if(userInput==0 && computerInput==2) //If statement for user playing rock and
comptuer playing sissors
        {
            printf("You played Rock. \nThe Computer played Sissors. \nYou win.**");
//output message for the user playing rock and the computer playing sissors
        }


        if(userInput==1 && computerInput==0) //If statement for user playing paper and
computer playing rock
        {
            printf("You played Paper. \nThe Computer played Rock. \nYou Win.**");
//output statemetn for user playing paper and computer playing rock
        }
        if(userInput==1 && computerInput==1) //If statement for if both played paper
        {
            printf("You played Paper. \nThe Computer also played Paper. \nNo one
wins.**"); //output for is both played paper
        }
        if(userInput==1 && computerInput==2) //If statement for user playing paper and
computer playing sissors
        {
            printf("You played Paper. \nThe Computer played Sissors. \nThe Computer
Wins.**"); //outpur for user playing paper and computer playing sissors
        }


        if(userInput==2 && computerInput==0) //If statement for user playing sissors
and computer playing rock
        {
            printf("You played Sissors. \nThe Computer played Rock. \nThe Computer
wins.**"); //output for user playing sissors and computer playing rock
        }
        if(userInput==2 && computerInput==1) //If statement for user playing sissors
and compuer playing paper
        {
            printf("You played Sissors. \nThe Computer played Paper. \nYou win.**");
//output for user playing sissors and computer playing rock
        }
        if(userInput==2 && computerInput==2) //If statement for if both played sissors
        {
```

```
            printf("You played Sissors. \nThe Computer also played Sissors. \nNo one
wins.**"); //output for if both played sissors
        }



        printf("\n\nWould you like to play again???  Enter 1 for Yes, 0 for No.\n\n");
//prompt to play game again
        scanf("%d", &replay); //stores input to replay variable

        if(replay==1) //If statement for if replay equals 1
        {
            counter++; //If replay equals 1 counter will add 1
        }
        else //Else statement for if replay does not equal 1
        {
            counter = -1; //If replay does not equal 1 counter will be set to -1
ending the loop
        }
    }

    printf("\n\nThankyou for Playing :-)\n"); //Output message ending the Game.

}
```

Program Screenshot Output

```
Marshalls-MacBook-Pro:HW1_Marshall_Slagle marshall$ gcc -Wall -g -o HW1_Marshall_Slagle  HW1_Marshall_Slagle.c
HW1_Marshall_Slagle.c:9:5: warning: implicit declaration of function 'srand' is invalid in C99 [-Wimplicit-function-declaration]
    srand(time(NULL)); //initializes the random fuction for the main method.
    ^
HW1_Marshall_Slagle.c:9:11: warning: implicit declaration of function 'time' is invalid in C99 [-Wimplicit-function-declaration]
    srand(time(NULL)); //initializes the random fuction for the main method.
          ^
HW1_Marshall_Slagle.c:28:22: warning: implicit declaration of function 'rand' is invalid in C99 [-Wimplicit-function-declaration]
        int random = rand() % 3; //generates random number for computerInput
                     ^
3 warnings generated.
Marshalls-MacBook-Pro:HW1_Marshall_Slagle marshall$ ./HW1_Marshall_Slagle


   Welcome to the Game of:
    Rock, Paper, Sissors

Here's How You Play:

The objective is to beat the computers choice.
A Rock can win by crushing Sissors.
Paper can win by covering Rock.
Scissors can cut Paper.

Enter the number 0 for Rock, 1 for Paper, and 2 for Scissors

:-) Are you ready to play? :-)


Please enter your move:
```

- Initial compile produces warnings for provided “random number generator” code; however, the program still compiles and runs.
- This is the immediate output when program is run.
- First desired response is the user’s first move.

```
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The objective is to beat the computers choice.
A Rock can win by crushing Sissors.
Paper can win by covering Rock.
Scissors can cut Paper.

Enter the number 0 for Rock, 1 for Paper, and 2 for Scissors

:-) Are you ready to play? :-)


Please enter your move:
0
You played Rock.
The Computer played Sissors.
You win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
```

- After the user plays Rock, the program generates a score and response.
- The user wins since the computer played scissors and lost to rock.
- The Program is now prompting the user to decide if the game will be replayed.

```
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The objective is to beat the computers choice.
A Rock can win by crushing Sissors.
Paper can win by covering Rock.
Scissors can cut Paper.

Enter the number 0 for Rock, 1 for Paper, and 2 for Scissors

:-) Are you ready to play? :-)


Please enter your move:
0
You played Rock.
The Computer played Sissors.
You win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
1
You played Paper.
The Computer played Rock.
You Win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.
```

- The user played again and now chose paper.
- The user won, due to the computer playing rock.

```
Marshalls-MacBook-Pro:HW1_Marshall_Slagle marshall$ ./HW1_Marshall_Slagle


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Here's How You Play:

The objective is to beat the computers choice.
A Rock can win by crushing Sissors.
Paper can win by covering Rock.
Scissors can cut Paper.

Enter the number 0 for Rock, 1 for Paper, and 2 for Scissors

:-) Are you ready to play? :-)


Please enter your move:
0
You played Rock.
The Computer played Sissors.
You win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
1
You played Paper.
The Computer played Rock.
You Win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
2
You played Sissors.
The Computer played Rock.
The Computer wins.**

Would you like to play again???  Enter 1 for Yes, 0 for No.
```

- The user played again and chose scissors.
- The computer won since rock beats scissors

```
Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
1
You played Paper.
The Computer played Rock.
You Win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
2
You played Sissors.
The Computer played Rock.
The Computer wins.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
0
You played Rock.
The Computer played Sissors.
You win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
0
You played Rock.
The Computer also played Rock.
No one wins.**

Would you like to play again???  Enter 1 for Yes, 0 for No.
```

- The user played again and chose rock.
- No one wins since the user and computer chose rock

```
Please enter your move:
1
You played Paper.
The Computer played Rock.
You Win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
2
You played Sissors.
The Computer played Rock.
The Computer wins.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
0
You played Rock.
The Computer played Sissors.
You win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

1

Please enter your move:
0
You played Rock.
The Computer also played Rock.
No one wins.**

Would you like to play again???  Enter 1 for Yes, 0 for No.

0


Thankyou for Playing :-)
Marshalls-MacBook-Pro:HW1_Marshall_Slagle marshall$
```

- The user terminated the game.
- The user was prompted with a Goodbye message from the Game.

Program Output

```
Marshalls-MacBook-Pro:HW1_Marshall_Slagle marshall$ gcc -Wall -g -o HW1_Marshall_Slagle
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The objective is to beat the computers choice.
A Rock can win by crushing Sissors.
Paper can win by covering Rock.
Scissors can cut Paper.

Enter the number 0 for Rock, 1 for Paper, and 2 for Scissors

:-) Are you ready to play? :-)


Please enter your move:
0
You played Rock.
The Computer played Sissors.
You win.**

Would you like to play again???  Enter 1 for Yes, 0 for No.
```

1

Please enter your move:
1
You played Paper.
The Computer played Rock.
You Win.**

Would you like to play again??? Enter 1 for Yes, 0 for No.

1

Please enter your move:
2
You played Sissors.
The Computer played Rock.
The Computer wins.**

Would you like to play again??? Enter 1 for Yes, 0 for No.

1

Please enter your move:
0
You played Rock.
The Computer played Sissors.
You win.**

Would you like to play again??? Enter 1 for Yes, 0 for No.

1

Please enter your move:
0
You played Rock.
The Computer also played Rock.
No one wins.**

Would you like to play again??? Enter 1 for Yes, 0 for No.

0

Thankyou for Playing :-)
Marshalls-MacBook-Pro:HW1_Marshall_Slagle marshall$