

## CSCI 1302: Software Development

Fall Semester, 2016

### Project 1

Instructor: *Dr. Eman Saleh*

**Due Date: 09/04/2016**  
**@ 11:30 PM**

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#### Objectives:

- 1- To be able to create, compile and run a simple Java program on our Linux server.
- 2- To perform decision making using if or switch structures
- 3- To perform repetition.

#### Problem:

Design and implement an application that plays the Rock-Paper-Scissors game against the computer. When played between two people, each person picks one of three options (usually shown by a hand gesture) at the same time, and a winner is determined. In the game, Rock beats Scissors, Scissors beats Paper, and Paper beats Rock. The program should randomly choose one of the three options (without revealing it), and then prompt for the user's selection. At that point, the program reveals both choices and prints a statement indicating if the user won, the computer won, or if it was a tie. Continue playing until the user chooses to stop, then print the number of user wins, losses, and ties.

#### Preparation:

- 1- Create a directory called `cs1302` in your home directory on **nike**.
- 2- Create a sub-directory named ***project1*** in the directory `cs1302`.
- 3- You should place your Java program **RockPaperScissors.java** in the directory ***project1***.
- 4- Design and implement your Java class **RockPaperScissors**.
  - 4.1 Use any text editor (e.g. vi or emacs) that are available on **nike** to edit and save your class.
  - 4.2 User input should be one char. (see the sample run below)
  - 4.3 Your program should handle invalid input (S,s, P,p,R,r,E,e) are considered valid inputs and any other input character is an invalid input.
- 5- Compile and run your program.
- 6- Test your program with different input values (rock, paper and scissors) and try invalid input.
- 7- Make sure that the output looks as follows: (use escape sequences e.g. "\t" to align output)

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Start Game Rock_Paper_Scissors
Enter your choice (R for rock, P for paper or S for Scissors) OR Enter E to exit:
R
You won :) My choice was Scissors.
Enter your choice (R for rock, P for paper or S for Scissors) OR Enter E to exit:
S
I won :( My choice was Rock.
Enter your choice (R for rock, P for paper or S for Scissors) OR Enter E to exit:
R
I won :( My choice was Paper
Enter your choice (R for rock, P for paper or S for Scissors) OR Enter E to exit:
p
Tie == ( My choice was Paper too
Enter your choice (R for rock, P for paper or S for Scissors) OR Enter E to exit:
N
Wrong input.
Enter your choice (R for rock, P for paper or S for Scissors) OR Enter E to exit:
E
Game Ended
Number of wins = 1
Number of losses = 2
Number of ties = 1

```

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8- Submit your **Project1** directory to **cs1302a** on nike. You must use the submit command to submit your work, as shown below:

9- \$ submit Project1 cs1302a

10- **Important:** You should execute the submit command while being in the parent directory of Project1, i.e. cs1302 (the current directory must be cs1302), or use the absolute path name to Project1.

11- You must include the following comment at the top of the program file. Copy and agree to the entirety of the text below, and fill in the class name of your .java file, your name, submission date, and the program's purpose.

/\*

[File name here].java

Author: [Your name here]

Submission Date: [Submission date here]

Purpose: A brief paragraph description of the program. What does it do?

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*NOTE: In the future, every Java file of every project you submit must have a comment such as this. Otherwise, points will be deducted from your project.*

**Evaluation of the projects will include:**

- 1) evaluating test cases using a pass or fail metric
- 2) programming style. In addition to ensuring your program compiles and runs, you are also responsible for proper documentation. Proper documentation includes proper function commenting (i.e. purpose, pre-, and post- conditions) and explicit directions on how to compile and run your programs.

*See course syllabus for late submission criteria*