

CS 1400 - Assignment #2

Maximum Points: 20 pts

Topics:

- The String class
- Using conditional (if, if-else) statements

Your programming assignments require **individual** work and effort to be of any benefit. Every student must work independently on his or her assignments. **You cannot use Google, StackOverflow, Chegg or any other on-line resources** to look up for the solution. Sharing your assignments with others in any way is **NOT** permitted. Violations of the University Academic Integrity policy will not be ignored.

Important Note: All submitted assignments must begin with a descriptive block comment (multi-line comments) similar to the one shown below. It must contain your name and the other information illustrated. To avoid losing trivial points, make sure this comment header is included in every assignment you submit, and that it is updated accordingly from assignment to assignment.

```
/* .....  
// AUTHOR: YOUR NAME  
// FILENAME: TITLE OF THIS SOURCE FILE  
// SPECIFICATION: DESCRIPTION OF THIS PROGRAM  
// FOR: CS 1400 - ASSIGNMENT #2  
// TIME SPENT: HOW LONG IT TOOK YOU TO FINISH THIS ASSIGNMENT  
/**/
```

Part #1: Exercises (6 pts)

Note: The answers to the following questions should be typed in the block of comments in the Assignemnt2.java file, right after your header. Please make sure they're commented out (green). Type them neatly and make them easy to read for the graders.

Given the String object called myString with the value "Practice makes perfect!", answer the following questions 1, 2, and 3.

Question #1 (1pt): Write a statement that will output the number of characters in the string.

Question #2 (1 pt): Write a statement that outputs the sentence in uppercase letters.

Question # 3 (2 pts): Write a statement that uses the original string to extract the new string "pErFeCt" and prints it to the screen. For this task, you should use **only** the String method `charAt()`. **Hint: Before concatenating the outputs of multiple `charAt()` results, convert those results to a String by using: `String.valueOf()`. For instance, `String.valueOf('A')` will convert the char 'A' to a String "A". `valueOf()` can also be used to convert variables of other primitive data types to String.**

Question # 4 (2 pts): What do the following expressions evaluate to in Java given `int x = 3, y = 6;`

- a) `x == y / 2`
- b) `x % 2 == 0 || y % 2 != 0`
- c) `x - y < 0 && !(x >= y)`
- d) `x + 6 != y || x / y <= 0`

Part #2: Programming (14 points)

Remember the childhood game "Rock, Paper, Scissors"? It is a two-players game in which each person simultaneously chooses either rock, paper, or scissors. Rock beats scissors but loses to paper, paper beats rock but loses to scissors, and scissors beats paper but loses to rock. Your program must prompt the player 1 and player 2 to each enter a string for their choice: rock, paper, or scissors. Then appropriately reports if "Player 1 wins", "Player 2 wins", or "It is a tie." Your program should work for both lower case and uppercase letters. If the user string is not rock, scissors or paper, the program will print "Wrong choice".

Sample Run: User input is in Bold.

Player 1: Choose rock, scissors, or paper:

rock

Player 2: Choose rock, scissors, or paper:

paper

Player 2 wins.

Player 1: Choose rock, scissors, or paper:

scissors

Player 2: Choose rock, scissors, or paper:

rock

Player 2 wins.

Player 1: Choose rock, scissors, or paper:

PAPER

Player 2: Choose rock, scissors, or paper:

Rock

Player 1 wins.

Player 1: Choose rock, scissors, or paper:

rock

Player 2: Choose rock, scissors, or paper:

pen

Wrong choice!

Submit your homework by following the instructions below:

- Submit your **Assignment2.java** file on GradeScope. Your assignment will be graded only if it is submitted there, NOT on Blackboard.
- Assignment2.java should have the following, in order:
 - In comments, the assignment Header described in "Important Note".
 - In comments, the answers to questions 1-5.
 - The working Java code requested in Part #2.
- The Assignment2.java file must compile and run as you submit it. You can confirm this by viewing your submission results.

Important Note: You may resubmit as many times as you like until the deadline. Only your last submission will be considered.

NO LATE ASSIGNMENTS WILL BE ACCEPTED. ALWAYS SUBMIT WHATEVER YOU HAVE COMPLETED FOR PARTIAL CREDIT BEFORE THE DEADLINE!