Lab6

Programming Fundamentals
CS130
Fall 2022   **Total=100**

1. Write a program that uses a priming read to prompt a user for a word. If the user enters a word, the program should print whether it has an even or odd number of characters using If -Else condition check.

   Tip: Find out the length of the word using word.length() function.

2. Write a program that will take as input three values for the length of the sides of a right triangle. The program should then determine if this set of numbers is a valid **Pythagorean triple** e.g. (3,4,5). Below are samples of input and outputs for this problem.

Enter the length of side a:3
Enter the length of side c:4
Enter the length of side hypotenuse:5
A triangle with side a of 3, side b of 4, and a hypotenuse of 5 is a right triangle.

Enter the length of side a:6
Enter the length of side c:8
Enter the length of side hypotenuse:15
A triangle with side a of 6, side b of 8, and a hypotenuse of 15 is not a right triangle.

3. Take values of length and breadth of a rectangle from user and check if it is square or not.

4. A student will not be allowed to sit in exam if his/her attendance is less than 75%.
   Take following input from user:
   Number of classes held
   Number of classes attended.
   And print
   percentage of class attended
   Is student is allowed to sit in exam or not.

5. Write a Java Program to swap two user input numbers using the third variable
   Output:
   Num1: 4
   Num2: 6

before swapping : 4 6
After swapping : 6 4

6. What is control structure? What are the differences between sequential and branching structure?
   - The control structure is the order in which the compiler reads each line of code. Sequential structure will read from top to bottom, whereas branching can execute specific lines depending on a set conditional (if-statements).