Gyalpozhing College of Information Technology
BSc in Computer Science, Year II, Semester I
Autumn 2020
PLT202: Object Oriented Programming Using Java
Lab Exercise 1
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Royal University of Bhutan

GYALPOZHING
COLLEGE OF INFORMATION TECHNOLOGY

1. Write a Java program to print the sum of squares of all the even and odd number. You should read the upper bound from the user [lower bound is zero].

2. Write a Java program called **Triangle** that accepts a set of three integer values representing the sides of the triangle and print if the triangle is equilateral. It should include the method **is_equilateral** that returns a boolean value if all three sides are the same length.

3. Write a method **toGrade** that takes a mark (guaranteed to be in the range of 0 to 100 inclusive), convert to a grade ('A', 'B', 'C', 'D', 'F') and returns this grade. The conversion rules are:

85 – 100	'A'
70 – 84	'B'
55 - 69	'C'
40 – 54	'D'
0 - 39	'F'

4. Write a Java program, **CircleRect**, to read in the radius of a circle and the height and width of the rectangle. All values read in are of int types.
   a. If the radius input is positive, your program should calculate its area and circumference and display the information.
   b. If the radius input is less than or equal to zero, an an appropriate message should be displayed and the program should proceed to input for rectangle.
   c. If the height or width is <= 0, an appropriate message should be displayed
   d. If the height and width are positive, your program should calculate its area and perimeter and display the information.

Information displayed on the screen is expected to adhere closely to formats in the following sample input and output:

Sample 1:
The radius of the circle is 5
Circle Area = 78.53975
Circle circumference = 31.4159

Enter the height: 6
Enter the width: 7
The height and width of the rectangle are 6, 7
Rectangle area = 42.0

Rectangle perimeter = 26.0
End of computation

Sample 2:
Enter Radius: -3
Invalid input for circle's radius.

Enter the height: 3
Enter the width: 4
The height and width of the rectangle are 3, 4
Rectangle area = 12.0
Rectangle perimeter = 14.0
End of computation

Sample 3
Enter Radius: 3
The radius of the circle is 3
Circle area = 28.274309999999996
Circle perimeter = 18.849539999999998

Enter the height: -3
Enter the width: 4
Invalid input for height or width of rectangle.
End of computation

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