CSC 1302 Principles of Computer Science II

Lab 2: Loop, Conditional and Method Practice

(Due on 11:59 pm, 6/11/2021)

Purpose:

A Java method is a collection of statements that perform some specific tasks. A method may be created to return the (task) results to the caller or return nothing to the caller. Methods allow us to reuse the codes. A for-loop is a common tool used in programming to achieve certain purpose that needs the specific operation in multiple iterations. In this assignment, you will practice how to define a method with parameters in Java and how to call the method you defined by supplying necessary arguments. When defining your methods, you will use loops and operations on numbers/strings to complete some specific tasks.

Task1:

Suppose n is the last-two digits of the PantherID, $m = n + 5$.

- When m is odd, please calculate:

  1) $1/1 + 1/3 + 1/5 + \ldots + 1/m = ?$

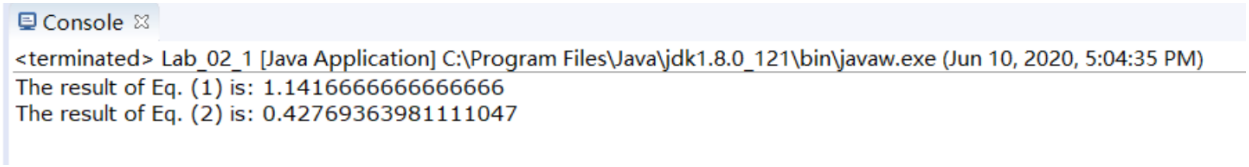
  2) $1/3 + 1/7 + 1/11 + \ldots + 1/(2 * m + 1) = ?$

- When m is even, please calculate:

  1) $1/2 + 1/4 + 1/6 + \ldots + 1/m = ?$

  2) $1/5 + 1/11 + 1/17 + \ldots + 1/(3 * m - 1) = ?$

Expected Output of Task 1:



Task2:

Write a java program named BMI.java

(i) print out your name and your pantherID

(ii) Ask user to type in his/her weight and height; if an illegal input (such as a letter) is typed by the user, give the user one more chance to input correctly.

(iii) Create a method to compute the body mass index (BMI) accordingly. BMI=weight/(height*height) * 703

(iv) Print out the weight class according to the right table.

BMI	Weight class
below 18.5	underweight
18.5 - 24.9	normal
25.0 - 29.9	overweight
30.0 and up	obese

Criteria:

1. Upload all of the .java and the .class files to the CSc1302 dropbox on http://icollege.gsu.edu.
2. Your assignment will be graded based on the following criteria: (a) Are your programs runnable without errors? (b) Do your programs complete the tasks with specified outputs? (c) Do you follow the specified rules to define your methods and programs? (d) Do you provide necessary comments include the programmer information, date, title of the program and brief description of the program.
3. Please comment the important lines in the .java file as shown in the template. The important lines including but not limited to i) variables, ii) for-loop, iii) while-loop, iv) if-else statement, iv) methods. Please use your own words to describe what is your purpose to write this line. A .java file without comment will be graded under a 40% penalty.
4. Make sure that both the .java and .class files are named and uploaded to icollege correctly. If any special package is used in the program, be sure to upload the package too. Should you use any other subdirectory (whatsoever) your program would not be graded, and you will receive a **0 (zero)**.
5. No copying allowed. If it is found that students copy from each other, all of these programs will get **0**.