

CSC 1302 Principles of Computer Science II

Lab 3: Loops and User Input Practice

(Due on 11:59 pm, 6/16/2021)

Purpose:

1. Continue to practice using for-loop in Java programming. Loops can execute a block of code as long as a specified condition is reached. When you know exactly how many times you want to loop through a block of code, for-loop can help you to save time, reduce errors and make your code more readable.
2. Using scanner class in Java to practice reading input from Java console. The main purpose of the Scanner class is to parse primitive composes and strings utilizing general expressions, in any case, it can utilize to peruse contribution from the client in the order line.

In this assignment, you will practice how to use for-loop with parameters in Java and how to use the Scanner class and when to sentinel values.

Task1:

Write a java program that will print out following pattern. Use nested for loop.

```
5
4 5
3 4 5
2 3 4 5
1 2 3 4 5
```

Sample Expected Output of Task 1:

```
<terminated> Lab3_task1 [Java Application] /Library/Java/JavaVirtualMachines/jdk-13.0.1.jdk/Contents/Home/bin/java (Jun 12, 2020, 9:25:26 PM)
5
45
345
2345
12345
```

Task2:

Write a java program which asks the user to input multiple numbers and a negative number will stop allowing user input. Then the program computes and printouts the average all the non-negative number inputted from the user.

Partial Samples for Task1:

```
//Name: Chengzong Peng
//PantherID:000-000-000
//Due Date: June 12
//=====
public class Lab_03{
    //method for printing out the request pattern
    public static void main(String[] args) {
        PrintNum();

    }
    public static void PrintNum()
    {
        //for-loop to separate the different features of different lines
        for()
        {
            for()
            {
                System.out.println();
            }
            System.out.println("\n");
//if statement to state if the number of line is greater than 3, then we can directly print out the result
            if()
            {
                System.out.println("\n");
            }

        }

    }
}
```

Partial Samples for Task2:

```
//Name: Chengzong Peng
//PantherID:000-000-000
//Due Date: June 12
//=====
import java.util.Scanner;
public class Lab_3_task2 {

    public static void main(String[] args) {

        //declare the object and initialize with predefined standard input object
        Scanner scan =
        System.out.println("Enter your integer (use 'return' key to separate each): ");
        //initialize the sum and count of input elements
        double num = ;
        double sum = ;
        double count = ;

        //check if an integer value is available
        while () {
            //read an int value

        }
        double mean =;
        //print the values to check if the input was correctly obtained
    }
}
```

```
        System.out.println("The average is: " + mean);  
    }  
}
```

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**.