

CSCI 1301 – Programming Principles I
Georgia Southern University
Department of Computer Science
Fall 2024

Assignment 6

Point Value: 20 points

Due: Friday October 18, 2024, start of lab

NOTE: Gradescope will give input test cases for any problems that require it. Use the Scanner's `nextDouble()`, `nextInt()`, etc. methods discussed in class to prompt the user for input and Gradescope will act as the user when your program requests it. In other words, just code user input like normal—as if a human were going to test your program.

Description

Write a Java program that asks the user to enter an integer that is used to set a limit that will generate the following four patterns of multiples of five using nested loops:

- Ascending multiples of five with ascending length triangle
- Ascending multiples of five with descending length (inverted) triangle
- Descending multiples of five with ascending length triangle
- Descending multiples of five with descending length (inverted) triangle

Use error checking to keep asking the user for a positive number until they enter one.

There may be extra line breaks in these sample runs to fully illustrate the patterns. Only recreate the patterns (include the last newline), not the extra line breaks between patterns. There should only be one blank line between each pattern.

Expected Output/Sample Runs (Do NOT just hardcode output)

Enter max number of multiples: 6	Enter max number of multiples: -2 Please enter a positive value.
Pattern A: 5 5 10 5 10 15 5 10 15 20 5 10 15 20 25 5 10 15 20 25 30	Enter max number of multiples: -3 Please enter a positive value.
Pattern B: 5 10 15 20 25 30 5 10 15 20 25 5 10 15 20 5 10 15 5 10 5	Enter max number of multiples: 4
	Pattern A: 5 5 10 5 10 15 5 10 15 20
	Pattern B: 5 10 15 20 5 10 15 5 10 5

Pattern C: 5 10 5 15 10 5 20 15 10 5 25 20 15 10 5 30 25 20 15 10 5 Pattern D: 30 25 20 15 10 5 25 20 15 10 5 20 15 10 5 15 10 5 10 5 5	Pattern C: 5 10 5 15 10 5 20 15 10 5 Pattern D: 20 15 10 5 15 10 5 10 5 5
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Code

Use the provided template for this assignment. Make any necessary modifications to classes and class headers to complete this assignment.

```
public class PAssign06 {
    public static void main(String[] args) {
        // add your code here
    }
}
```

Deliverables

Name your program PAssign06.java. Programming Assignment 6 is to be individual work. Submit the program by the specified due date. Submit each file to its corresponding assignment on Gradescope.

See and follow the Programming Assignment Format document for submission requirements.

Use a utility similar to <https://www.diffchecker.com/> and the Expected Output to compare your program's output with the requested output as well as the unit tests provided within Gradescope. Programming is in the details, so double check punctuation, spacing, and case if your output does not match. When copying and pasting, be aware that Microsoft Word sometimes replaces normal quotes with Smart Quotes, which may need to be edited.

Last modified: October 9, 2024