Assignment 4

Before attempting this project, be sure you have completed all of the reading assignments, non-graded exercises, discussions, and assignments to date.

(1) Write Java code to prompt the user for the starting number (e.g. 1) and output the triangle pattern below using nested for-loops.

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
1 2 3 4 5 6
1 2 3 4 5 6 7
```

(2) Write Java code to prompt the user for the starting number to print (e.g. 5) and output rectangular pattern below: Use nested for-loops.

```
Enter the value of n: 5
5 5 5 5 5 5 5 5 5
5 4 4 4 4 4 4 4 5
5 4 3 3 3 3 3 4 5
5 4 3 2 2 2 3 4 5
5 4 3 2 1 2 3 4 5
5 4 3 2 2 2 3 4 5
5 4 3 3 3 3 3 4 5
5 4 4 4 4 4 4 4 5
5 5 5 5 5 5 5 5 5
```

Hint: Check out practice exercise 3 in the class materials.

Make sure your Java program is using the recommended style such as:

- Javadoc comment upfront with your name as author, date, and brief purpose of the program
- Comments for variables and blocks of code to describe major functionality
- Meaningful variable names and prompts
- Identifiers are written in upper CamelCase
- Class name starts with upper case letter and variables in lower case letter
- Constants are written in All Capitals
- Use proper spacing and empty lines to make code human-readable

Capture execution:
You should capture and label screen captures associated with compiling your code and running a couple of different inputs for each program.

Submission requirements

Deliverables include Java program(s) (.java) and a single Word (or PDF) document. You can code both exercises in a single java program or in two separate ones. The Java and Word/PDF files should be named appropriately for the assignment (as indicated in the SubmissionRequirements document.

The word (or PDF) document should include screen captures showing the successful compiling and running of each of the programs. Each screen capture should be properly labeled clearly indicate what the screen capture represents.

Submit your files to the Assignment 4 submission area no later than the due date listed in youronline classroom.

Grading Rubric:
The following grading rubric will be used to determine your grade:

Attribute	**Level 2 (15-20 points)**	**Level 1 (5-15 points)**	**Level 0 (0 - 5 points)**
Triangle pattern	Correct or one mistake in for-loop, and code to output	Two mistakes in loop logic and resulting output	Three or more mistakes in loop logic and resulting output
Rectangle pattern	Correct or one mistake in for-loop, and code to output pattern	Two mistakes in loop logic and resulting output	Three or more missing essential elements for user input
User input	Correct or one incorrect prompt and captured input	Two mistakes in prompts and/or capture of input	Missing or close to missinguser input
Test cases	A single Word or PDF file showing the program's output with at least two test cases using different size inputs for each pattern implemented correctly	A single Word or PDF file showing the program's output with only one test case for each pattern	Missing or significantly incorrect or incomplete test cases
Program documentation and style	Correct or one missing program comment, identifier, and/or screen capture	Two incorrect or incomplete documentation and/or style elements	Three or more missing or significantly incorrect documentation and/or style elements