

## 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 prompts user for number of rows (e.g. 6) and output the triangle pattern below. Use nested for-loops.

```
#
# #
# # #
# # # #
# # # # #
# # # # # #
```

(2) Write Java code to prompt user for side length (e.g. 6) and output diamond pattern below: Use nested for-loops.

```
      #
    # # #
  # # # # #
# # # # # # #
# # # # # # # # #
  # # # # # # #
    # # # # #
      # # #
    # # #
      #
```

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

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

- Javadoc comment up front 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 indicated what the screen capture represents.

Submit your files to Assignment 4 submission area no later than the due date listed in your online 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 almost correct for-loops, and code to output pattern	Mistakes in loop logic	Missing or close to missing loop logic
Diamond pattern	Correct or almost correct for-loops, and code to output pattern	Mistakes in loop logic	Missing or close to missing loop logic
User input	Correct or almost correct prompts and user input	Mistakes in prompts and/or capture of input	Missing or close to missing user input
Test cases	A single Word or pdf file showing the program's output with at least two different size inputs for each pattern, and whether the pattern is correct	Only one sized pattern for each shape	Missing or significantly incorrect test cases
Program documentation and style	Correct or almost correct program	Mistakes or incomplete	Missing or significantly incorrect documentation and/or style

	comments and identifiers	documentation and/or style	
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