

# COMP 1405/1005 -- Assignment #1

Due: Thursday, January 29, 2015 at 9:00 PM

[out of 45 marks]

## Learning Objectives

- practice solving simple problems computationally
- practice writing small programs in Java
- write programs that focus on user input/output and simple mathematical calculations

## Instructions:

### 1. Problem #1:

[15 marks]

Write a program in Java that prints out a chess grid of 8 rows and 8 columns of alternating white/black squares.

- Your output must match the following:

```
+---+---+---+---+---+---+
|  |@@|  |@@|  |@@|  |@@|
+---+---+---+---+---+---+
|@@|  |@@|  |@@|  |@@|  |
+---+---+---+---+---+---+
|  |@@|  |@@|  |@@|  |@@|
+---+---+---+---+---+---+
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|  |@@|  |@@|  |@@|  |@@|
+---+---+---+---+---+---+
|@@|  |@@|  |@@|  |@@|  |
+---+---+---+---+---+---+
|  |@@|  |@@|  |@@|  |@@|
+---+---+---+---+---+---+
```

- In order to be efficient, your program must:
  - use **String** variables to hold three kinds of information: a comb-shaped pattern that begins with a white square, a comb-shaped pattern that begins with a black square, and the bottom line
  - print each type of comb four times and the bottom line once

### 2. Problem #2

[15 marks]

Write a program in Java that:

- asks the user for the length of the equal side and of the base of an [isosceles triangle](#)
- prints the perimeter, the height and the area of the triangle

### 3. Problem #3

[15 marks]

Write a program in Java that computes the total amount due at an online T-shirt store:

- ask the user for the T-shirt price and the number of T-shirts bought
- compute the total price for the T-shirts, plus 13% HST
- compute the shipping charge (\$2 per T-shirt)
- compute the total amount of the order and print the amount to the screen

## Submission

You will submit in [cuLearn](#), before the due date and time, one `.java` file for each problem.

**Do not** submit `.class` files!

## Grading

The detailed rubric can be found in [cuLearn](#). Each problem will be graded based on three criteria:

- quality of your problem solving logic
- quality of your program implementation
- adherence to programming conventions