# Module 1 - Introduction to Computer Programs, and Java

CMPT220L
Due on Sep 4, 2020 by 11:59PM
Points: 100

## Problems

1. *(Simple computation)* The formula for computing the discriminant of a quadratic equation $ax^2 + bx + c = 0$ is $b^2$–$4ac$.

   Write a program that computes the discriminant for the equation $3x^2 + 4x + 5 = 0$.

2. *(Physics: acceleration)* Average acceleration is defined as the change of velocity divided by the time taken to make the change, as shown in the following formula:

   $a = \frac{v_1 - v_0}{t}$

   Here, $v_0$ is the starting velocity in meters/second, $v_1$ is the ending velocity in meters/second, and t is the time span in seconds. Assume $v_0$ is 5.6, $v_1$ is 10.5, and $t$ is 0.5, and displays the average acceleration.

3. *(Display pattern)* Write a program that displays the following a big sign for 100 as shown in the sample run:

```
* ***** *****
* *   * *   *
* *   * *   *
* *   * *   *
* ***** *****
```

## Submission

Make sure you create one Java file per project. Place your .java files under the corresponding folder in your local copy of the GitHub repository, commit and push it to the remote repository. Make sure that the professor has access to the repository (jfac65-marist).

```
cmpt220lastname\
   hw\
      1\
         Problem1.java
         Problem2.java
         Problem3.java
```