

# ASSIGNMENT 1

## OO PROGRAMMING

October 3, 2023

*The source code should be uploaded in the UPEL platform at the end of the class. DO NOT upload any executables, compressed files, subdirectories or temporary files.*

[1] Create JAVA directory on your student account, and then a subdirectory called 00. Work there during this classes. Download and compile Example00.java using:

```
javac Example00.java
```

and if there are no errors start the program:

```
java Example00
```

[2] Create a method that computes the position of a free falling object in Earth's gravity. The formula for the position at the time  $t$  is

$$x(t) = \frac{1}{2}at^2 + v_0t + x_0$$

where  $a = -9.81 \text{ m/s}^2$  is the free fall acceleration,  $x_0$  is the initial height, and  $v_0$  is the initial speed. Run the method to calculate the position at  $t = 2.2 \text{ s}$  of the stone that was thrown upwards from the top of the tower at height  $x_0 = 257 \text{ m}$ , with the initial speed  $63 \text{ km/h}$ .