

## COSC-111 INTRODUCTION TO COMPUTER SCIENCE I PRACTICE WITH WHILE LOOPS

1. The `int` countdown for NASA's rocket launcher is currently at 10 seconds. When the countdown reaches 0, the rocket will launch. Write a while loop that counts down to the time of the launch, printing the number of seconds left before launch. When the number of second from launch equals to 3, the program also prints "Ignition". When it is time for launch, the program prints "LAUNCH".

2. In Futurama, the countdown on the shuttle launcher operates a bit strangely. Like today, the shuttle launches when the `int` display shows 0. However, instead of counting from 10 down to 0 like the NASA's rocket launcher, the display shows a random integer between 0 and 100 (inclusive) at every second. Write a while loop that updates and prints the display, stopping only when the display shows 0. (The command `Math.random()` produces a random double between 0 and 1 (including 0 but not including 1). You will need to translate this to a random integer between 0 and 100.)

3. Suppose we want to compute  $x^y$  for some non-negative ints  $x$  and  $y$ . Write a program that reads the values of  $x$  and  $y$  as keyboard input, and then computes  $x^y$  using a while loop.