

CS/SE 2S03 Tutorial #7 Exercises

1. Recall your program that calculated the factorial of an integer using a while loop:
 - a. Using a **for loop** now, calculate the factorial of an integer.
 - b. Which implementation should be preferred and why?
2. Write a program that reads a sequence of integers from the terminal window and prints a frequency report showing how many times the integers 0-9 occur in the sequence. Assume that the sequence is terminated by a negative or double digit integer. Use a histogram in which columns are horizontal. A column corresponds to the number of occurrences of each integer.

Example:

```
8
0
2
8
8
9
5
9
-3
```

```
0: *
1:
2: *
3:
4:
5: *
6:
7:
8: ***
9: **
```

3. You are an invigilator for the 2S03 final exam, and you need to keep track of who and where each student in your section is seated. There are 12 students in a grid of desks of 4 rows and 3 columns.
 - a. Implement a two-dimensional array capable of storing the student number of each test writer.
 - b. How would you declare the array if you already have the following locations of each student?

21	64	42
32	91	95
19	74	27
61	55	72

- c. Print out the arrangement using a nested for loop.
- d. Which student is seated in `array[2][1]`?