# COMP301 - OPERATING SYSTEMS

Fall 2021

Assignment - 2

**DUE: 29 January 2021, 11:59PM**

# Task Requirements

Modify the following code to **demonstrate context switching** between parallel running threads. The program must fulfil the following requirements:

- There should be 4 threads created using Pthreads API.
- While all/any the threads are running, the main() function should be waiting for the threads to finish their execution.
- The 1st thread should continuously print the character "**1**" in a loop.
- the 2nd thread should continuously print the character "**2**" in a loop.
- the 3rd thread should continuously print the character "**3**" in a loop.
- The 4th thread should continuously check for keyboard input. As soon as the user presses the Q key, the program should terminate.
- Right before termination, the main() function displays the number of 1's, 2's, and 3's printed out by each thread.

## Sample Output

```
111111111111111111111111111111111111111111112222222222211111111111112222222222
222223333333333333333312222222222222211111111122222222221111111111111222222
222222222222222222111111111113333333333333333313333333311111111111111111333
3333332222222222222111111111113333333322222222222111111111111333333333
333322222222222222223333333333333333333311111111111111111111133333333333222
2222222223
Number of 1s = 141
Number of 2s = 121
Number of 3s = 98
```

# SUBMISSION DETAILS:

1. There is one C file required as an outcome. The file must compile without Errors.
2. Name the file as **rollno.c** e.g. 12-12345.c, upload this file to Moodle.