

## Lab 2

Submit your java file on MS Teams, make sure you write your ID and name in the file

### Task (1) [100 marks]

Provide an ADT java class for a single linked list named “SingleLinkedList” that supports the following functionalities:

- 1) [10 marks] Construction.
- 2) [10 marks] Insert at the end of the list.
- 3) [10 marks] Insert at a specific position.
- 4) [10 marks] Display the list.
- 5) [10 marks] Delete a value. // returns 1 when success, 0 otherwise
- 6) [10 marks] Search for a value. // returns 1 when success, 0 otherwise
  
- 7) [10 marks] Find Maximum.
- 8) [10 marks] Find Minimum.
- 9) [10 marks] Count the number of values.
- 10) [10 marks] Get a value in the list at a given index.

### Hints.

- Create the proper data members, methods signatures, and proper class interface.
- Use the clean code rules indicated in class. Use refactoring and follow OODP.
- Create the proper test cases that show that your code is working correctly for every method
- Use comments in your code