Lab 3

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

Task1) [50 marks] Provide an ADT java class for Stack using LinkedList named "LinkedListStack" that supports the following functionalities:

1) **[5 marks]** Stack construction.
2) **[5 marks]** Stack Display.
3) **[15 marks]** Push value in stack.
4) **[15 marks]** Pop value from stack.
5) **[5 marks]** Peek to return the top of stack
6) **[5 marks]** isEmpty to check if the stack empty or not

Task2) [50 marks] Provide an ADT java class for Stack using arrays named "ArrayStack" that supports the following functionalities:

1. **[5 marks]** Stack construction.
2. **[5 marks]** Stack Display.
3. **[15 marks]** Push value in stack.
4. **[15 marks]** Pop value from stack.
5. **[5 marks]** Peek to return the top of stack.
6. **[5 marks]** isEmpty to check if the stack empty or not.

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