SSN College of Engineering
Department of Computer Science and Engineering

CS2309 - Java Lab

Exercise : 5

Design a Java interface for ADT Stack. Develop two different classes that implement this interface, one using array and the other using linked-list. Provide necessary exception handling in both the implementation.

Instructions:

1. Create a interface for stack ADT.
2. Stack interface contains method declarations for stack opeartions
such as push(),pop(),peek(), isempty(), isfull(),display().
3. Create a class called Stackarray which will implement the interface
Stack using array implementation.
4. Create a class called linkedstack which will implement the
interface stack using linkedlist implementation. (use userdefined
linked list class)
5. push()- method will insert the element at the top of the stack.
Before insert the element, it should check whether the stack is full.
    if so, raise the user defined exception to state "stack overflow" condition.
6. pop()- method will remove the top element from the stack. Before
remove the element, it should check whether the stack is empty.
    if so, raise the user defined exception to state "stack underflow" condition.
7. peek()-method will retrieve the top most element in the stack.
8. isempty()-to check the stack is empty or not
9. isfull()-to check the stack is full or not.
10. display()-to display the stack elements.