# Lab Tasks

**Task 1:**

Create a generic Queue class that implements the basic functionalities methods of a queue (e.g., enqueue, dequeue, front, isEmpty) and can hold elements of any data type. Create the ArrayList of General type in the class. Then Add integer data first in the list from main methods and print the list then add string data. Then find out and print the 2 maximum elements from Queue . Note , the data you have entered the first must be printed on screen first. Also implement the method which calculates and return the size of the queue.

**Task 2:**

Create a generic Stack class that implements the basic functionalities methods of a stack (e.g., push, pop, peek, isEmpty) and can hold elements of any data type. Create the ArrayList of General type in the class. Then Add integer data first in the list from main methods and print the list then add string data while getting the integer data sort the data in descending order and store them in integer array. Note , the data you have entered the first must be printed on screen in last. Also implement the method which calculates and return the size of the stack.

**Task 2:**

Create a generic Stack class that implements the basic functionalities methods of a stack (e.g., push, pop, peek, isEmpty) and can hold elements of any data type. Create the ArrayList of General type in the class. Then Add integer data first in the list from main methods and print the list then add string data while getting the integer data sort the data in descending order and store them in integer array. Note , the data you have entered the first must be printed on screen in last.

**Task 3:**

Write a generic method implementation to find the maximum element in an array of any type.

**Hint: The max method takes an array of type T, which must implement the Comparable<T> interface. This interface provides the compareTo method, which allows us to compare two elements of type T.**

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**Task 4:**

Create a generic class having two parameters username and password. If the username and password entered by the user matches with the pre stored username and password then print a logon message otherwise terminate the program.