# EASTERN UNIVERSITY, SRI LANKA
## DEPARTMENT OF MATHEMATICS
## SECOND EXAMINATION IN SCIENCE -2009/2010 (2011)
## FIRST SEMESTER (June /July, 2011)
## CS 251 – PRACTICAL WORK ON CS 201

Answer **all** questions Time: 2 hours

A) Implement the following **stack** operations in C++ Programming Language

a. Create a Stack.
b. Check empty Stack.
c. Return top element of the stack.
d. Insert an element in to a stack.
e. Remove an element from a stack.

The three digits numbers P and Q are given below, write a program to find out the sum of these two numbers using **stack** data structure.

Also find the result of the addition that represents an array R like the following:

P = 1 4 3
Q = 7 8 7
9 3 0
R = [9, 3, 0]

B) Given are two one–dimensional arrays A and B of numbers which are stored in **descending** order. Write a program to merge them in to a single sorted array C that contains every item from arrays A and B in **ascending** order.

For example:

Array A= {82, 26, 18, 7, 1}
Array B= {54, 32, 20, 12, 5}

Output:

Array C= {1, 5, 7, 12, 18, 20, 26, 32, 54, 82}

Write a program to find the index of the number **26** in the array C using **binary Search** method.