EASTERN UNIVERSITY ,SRILANKA
EXTERNAL DEGREE EXAMINATION IN SCIENCE
SECOND YEAR FIRST SEMESTER- (2003/2004)
2004/2005(July/August 2008)
EXTCS-251 – DATA STRUCTURE AND DESIGN OF ALGORITHM
(Practical work on CS 201)
(Proper and Repeat)

nswer all Questions **Time: Two Hours**

uestion 01

Write a program in C++ to merge two given arrays, A in ascending order and B in descending order into third array C, which should be in ascending order .
Suppose A, B, C are arrays of integers of size M, N and M + N respectively.
The numbers in array A appear in ascending order while the numbers in array B appear in descending order.
Write a user defined function in C++ to produce third array C by merging arrays A and B in ascending order. Use A, B and C as arguments in the merge function.

uestion--02

a)
Write a program in C++ to read a given linear array and then sort this array using the technique *Bubblesort*. Also show the output of sorting this array after each iteration.

b)
Write a program in C++ to read a given linear array and then sort this array using the technique *insertion sort.* Also show the output of sorting this array after each iteration (after every passed array sort).

uestion--03

Write a program in C++ to push an element into a *Stack-array.*

Firstly test for *Stack- Full* condition and if it is full ,return –1,
otherwise successfully insert an element into *Stack* and *return 0.*

uestion--04

a) Write a program in C++ to insert an element in the beginning of a List.
(This program should illustrate the following:
Firstly reads the new info (info is an array), creates a new node dynamically, assigns read Info to it and adds this node in the beginning of the linked list being pointed to by pointer *start*). .

(b) Write a program in C++ to insert an element in the end of a List.
(This program should illustrate the following:
Firstly reads the new info (info is an array), creates a new node dynamically,assigns read Info to it and inserts this new node at the end of the linked list being pointed to by pointer *start*). .