

EASTERN UNIVERSITY, SRI LANKA

Second Examination in Science 2005/2006

First Semester - August/September 2007

CS 251 - Practical work on Data Structures & Design of Algorithms

Answer all questions

04 MAR 2008

Time allowed: 02 Hours

Q1)

a) Write a C++ function to implement the Merge sort algorithm.

b) Write a main program to test your function.

Save your program as **Que1.cpp**.

Q2)

a) Implement a Stack ADT class named **ADTStack** with the data type of **character**.

b) Implement the operations that can be done in a Stack ADT including the following operations.

- a. `push(char c);`
- b. `pop();`
- c. `isEmpty();`
- d. `isFull();`

c) Write a main program to read a word or string from the user and use the **ADTStack** class to display whether the entered word or String is palindrome or not.

(Your program should ask the user to enter a word or string)

Save your program as **Que2.cpp**.