Eastern University, Sri Lanka

Second Examination in Science (2003/2004)
First Semester (Nov / Dec 2004)

CS 251 – Practical work on CS 201

Time allowed: Two hours   **Answer All Questions**

Q1)

1. Write C++ code to implement the SLL (**Singly Linked List**) and SLLNode classes in a file called **SLL.cpp**.
2. Test your SLL by writing appropriate C++ statements in the main function for the following:
    a. Create mySLL as an empty SLL.
    b. Insert the items whose values are "**CS 201**","**is**", "**very**", and "**easy**".
    c. Print this list in first to last order.
    d. Insert the string "**not**" after the "**is**" node and print the list again.
    e. Delete the node containing "**very**", and print the list again. .

Q2)

1. Write a C++ function to implement the **Merge Sort** algorithm
2. Write a main program to test your function.
    a. Apply your function to the array **x** = [1, 2, 1, 4, 2, 1, 3, 4, 2, 1] and print the result.
3. Write a C++ function **makeUnique**(x) [Here the function **makeUnique** removes duplicate items from the array].

    Example If **x** = [1, 2, 1, 4, 2, 1, 3, 4, 2, 1]. Then, after **makeUnique**(x), **x** will contain [1, 2, 4, 3].

4. Test your code.