National University of Sciences & Technology
School of Electrical Engineering and Computer Science
Department of Computing

CS212: Object Oriented Programming BSCS-5AB Spring 2016

Assignment 2: Linked Lists	
CLO-2: Demonstrate the ability to create and use classes within the C++ programming language **CLO-5: Apply the OOP concepts to solve complex problems independently**	
Maximum Marks: 10	**Instructor: Ms. Hirra Anwar**
Due Date : 15th April 2016 02:00 pm soft copy on LMS, hard copy same day in class/office	
Student Name:	**Reg. No:**
Section:	

Instructions:

Assignment must be submitted in printed form as well as in soft form (on LMS). Plagiarism in assignment will lead to zero marks. Clearly mention your name, section & registration number on the assignment. *To get good marks you must attempt assignment yourself, use good programming practices & explain your solution through comments*.

Tasks:

1. Analyze conceptually the requirements for a singly linked list in C++ and create a class which implements all the required functions. Write code for insertion and deletion of a node in a singly linked list (at start, middle and end positions).
2. Write a SortedINSERT() function which given a sorted list in ascending order, and a single node, inserts the node into the correct sorted position in the list.
3. Create a method that takes two linked lists as arguments and appends second list to the first one.
4. Create SORT() method that sorts a given list in ascending order.
5. Create SPLIT() method that splits a given list into two parts i.e. front part and back part. For cases where no. of elements is odd, the second part should hold the extra element.