Usman Institute of Technology

Department of Computer Science – Fall 2018

CS-211 Data Structures and Algorithms
Lab Manual

OBJECTIVE:

1. *Enable Students to handle Linked List and its operations.*

Name : _____

Roll No. : _____

Semester : _____ Section: _____

Date : _____

Remarks : _____

Signature : _____

Lab 07: Implementation of Linked List and its operations

1. **Linked List Operations**
    a. Create a class SingleList in order to store data and the next node pointer and perform singly Linked List operations.

    b. Declare two properties in the class SingleList, next for storing reference of the next node and data for having data in the current node.

    Public SingleList next
    Public int data

    c. Create a default constructor of class SingleList which sets data to zero and next to null.

    Public SingleList ( )

    d. Create a constructor of class SingleList that takes data as an input argument and set the Next to null.

    Public SingleList (int i)

    e. Create a function InsertNext() to add data elements in the list and returns the node.

    SingleList InsertNext (int data)

    f. Create a function DeleteNext() which checks if the list is empty then returns 0 else delete next node from the list and returns 1.

    int DeleteNext ( )

    g. Create a function Traverse() which takes a node as input and traverse the complete list from that node.

    void Traverse (SingleList node)

    h. Create a list a grocery items (at least 10 items) that you want to purchase from a mart but you have to follow the priority of items over sequence i.e. you will have to purchase item in order of the number assigned in the list. Once you purchase the item, remove it from the list.

    i. Modify the above program to implement Doubly linked list operations.