**National University of Modern Languages**

Department of Software Engineering

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| **Subject:** Data Structures and Algorithms | **Instructor:** Mohsin Abbas |
| **Lab Report:** 3  **Class:** BSSE III (Evening) | **Due Date:** 19-05-2022 |
| **Student Roll No:** | **Student Name:** |
| **Total Marks:** 10 | **Obtained Marks:** |

**Note: This assignment should be submitted in both soft copy and hard copy. Soft copy should be submitted in word document (.docx file) on Google Classroom. Hard copy should be submitted in coming lab class (no need to hard bind or something, just staple document or can place it in strip file). It is an individual assignment. The report (softcopy & hardcopy) must contain this page as the first page.**

**Assigned Task:**

1. Create a class “DNode” with proper data members (as discussed in class), save it as header file. Write complete code for Doubly Linked List class that uses the header file of DNode class. Doubly Linked List class contains following functions:
   1. addToHead(double element)
   2. addToTail(double element)
   3. addAfter(double existing, double element)
   4. addBefore(double existing, double element)
   5. deleteFromHead()
   6. deleteFromTail()
   7. deleteSpecificNode(double existing)
   8. forwardtraversing()
   9. reversetraversing()
2. Write a menu driven program that implements Linked List data structure using class based implementation. Provide menu for user to select operations mentioned above. Take values from user where necessary.
3. Attach screenshot(s) of proper result and working of program.