**DSA Lab: 01-January-2021**

**Topic: Linked List**

**Due on 01-January-2021, 4:15pm**

**Late Submission 02-January-2021, 4:15pm**

**Mode of submission: MS Teams**

Assignment 1

Write a program to remove ALL duplicate nodes of a linked list. Consider integer elements in the list. The program must include the following functionalities:

**InsertAtBeginning()** - This function inserts a new node at the beginning of the linked list. Head pointer must be passed as an argument to this function. This function helps to create the linked list initially.

**Remove ()** - This function removes ALL duplicate nodes of a linked list.

**PrintList()** – This Function prints the entire linked list. Head pointer must be passed as an argument to this function.

**For Example,**

Input:

|  |  |
| --- | --- |
| 20 |  |

|  |  |
| --- | --- |
| 40 |  |

|  |  |
| --- | --- |
| 20 |  |

|  |  |
| --- | --- |
| 10 |  |

|  |  |
| --- | --- |
| 10 | null |

Output:

|  |  |
| --- | --- |
| 10 |  |

|  |  |
| --- | --- |
| 20 |  |

|  |  |
| --- | --- |
| 40 | null |

Assignment 2

Write a program that will determine common values between two sorted Linked Lists.

**Intersection():** This function helps to find the common values between to linked list.

List 1:

|  |  |
| --- | --- |
| 20 |  |

|  |  |
| --- | --- |
| 30 |  |

|  |  |
| --- | --- |
| 40 | null |

|  |  |
| --- | --- |
| 10 |  |

List 2:

|  |  |
| --- | --- |
| 25 |  |

|  |  |
| --- | --- |
| 40 | null |

|  |  |
| --- | --- |
| 20 |  |

Output:

|  |  |
| --- | --- |
| 40 | null |

|  |  |
| --- | --- |
| 20 |  |