Week-7

```
#include <stdio.h>
# include <stdlib.h>
Struct node
{
    Struct node *Prcv;
    Struct node *next;
    int data;
};
Struct node * head;
void insertion_beginning()
{
 Struct node *Ptr;
 int item;
 Ptr = (Struct node *) malloc (sizeof (Struct node));
 if (Ptr==NULL)
 {
    Print f ("\n OVERFLOW");
 }
 else
 {
  Print f ("\n Enter item value");
  Scan f ("%d", &item);
  if (head==NULL)
  {
       Ptr->next = NULL;
       Ptr->Prev = NULL;
       Ptr->data = item;
       head = Ptr;
  }
```

```
Else
{
  ptr -> data = item;
  Ptr -> Prev = NULL;
  Ptr -> next = head;
  head -> Prev = Ptr;
  head = Ptr;
 }
 Printf ("\n Node inserted \n");
}
}
void deletion_specific()
 {
   Struct node *ptr, *temp;
   int val;
   Printf ("\n Enter the data after which the
              node is to be deleted :");
  Scanf ("%d", &val);
  Ptr = head;
  While (Ptr -> data ! = val)
  Ptr = Ptr -> next;
  if (Ptr -> next = = NULL)
 {
   Print f ("\n Can't delete \n");
 }
 Else if (Ptr -> nex -> next = = NULL)
 {
   Ptr ( -> next = NULL;
 }
 Else
 {
  temp = Ptr -> next;
 Ptr -> next = temp -> next;
```

```
temp → next → Prev = Ptr;
free(temp);
Printf("\nnode deleted : \n");
    }
  }
Void display ()
{
    Struct node * Ptr;
    Print f ("\n Printing Values... \n");
    Ptr = head;
    While (Ptr != NULL)
    {
        Printf ("%d\n", Ptr→data);
        Ptr = Ptr →next;
    }
}
void main()
{
    int choice = 0;
    While (choice != 9)
    {
        Printf ("\n choose one option from
                the following list...\n");
        Print f ("\n1. insert in beginning \n
2. Delete the node after the given
data
3. Show \n
4. Exit \n");
Printf ("\n Enter your Choice ?\n");
Scanf ("\n %d", &choice);
Switch (choice)
{
Case 1;
insertion_beginning();
 break;

case 2;
deletion_Specified();
 break;

 Case 3:
 display();
break;

Case 4:
Exit(0);
break;
default:
Printf ("Please Enter valid choice..");
          }
        }
    }
```

```
Output: 1. Insert a node
        2. Delete a node
        3. display the list
        4. Exit
     Enter your Choice:1
      Enter data for new node:10

  Enter your choice:1
  Enter date for new node:20

  Enter your Choice:7
    Enter data for new nod:30
Enter your Choice: 2
Enter the value of node to delete: 10
Node with value 10 deleted Sucessfully.

Enter your choice: 3.
Doubly linked list : 20 -> 30 -> NULL

Menu:

1.  Insert a node
2   Delete a node
3   Display the list
4.  Exit
Enter your Choice: 4
         Exit
```

1/12/24.