Q.) Write a program to implement: doubly link list with primitive operations
a.) Create a doubly linked list.
b.) Insert a new node to the left of node.
c.) Delete the node based on a specific value.

Ans →

```
#include <stdio.h>
#include <stdlib.h>
struct node
{
    int data;
    struct node * next;
}; struct node * prev;
struct node * head = NULL, * newnode;
  struct node * temp;
void create (int);
void insert_at_left (int);
void delete_at_value ();
void display ();
void main()
{
    int choice = -1, data, pos;
    while (choice !
```

```
void create ( int dataa)
{
    struct
    newnode = (struct node *) malloc (sizeof (struct node));
    newnode -> data = dataa;
```

```
newnode -> next = NULL; newnode -> prev = NULL;
if (head == NULL)
{
    head = temp = newnode;
}
else
{
    temp -> next = newnode;
    newnode -> prev = temp;
    temp = newnode;
}
}
void insert_at_left (int data)
{
int i=0; int pos; struct node *current = head;
newnode = (struct node *) malloc (sizeof (struct node));
newnode -> next = NULL;
newnode -> prev = NULL;
printf ("Enter position: ");
scanf ("%d", &pos);
while (i < pos - 1)
{
    current = current -> next;
    i++;
}
newnode -> next = current -> next;
newnode -> prev = current;
(current -> next) -> prev = newnode;
current -> next = newnode;
newnode -> prev = current;
```

```
delete_at_value()
{
    struct node * nextnode;
    int value; struct node * current = head;
    printf("Enter value to be deleted : ");
    scanf("%d", &value);
    while(current->next != NULL)
    {
        nextnode = current->next;
        if(nextnode->data != value)
        {
            current = current->next;
            continue;
        }
        else
        {
            current->next = nextnode->next;
            (nextnode->next)->prev
                = current;
            free(nextnode);
            break;
        }
    }
}
```

Output :-

```
Enter choice : 1
Enter data for node : 5
Enter choice : 2
Enter data : 21
Enter position : 0
Enter choice : 1
Enter data for node : 6
```

Enter choice : 3
Enter value to be deleted : 5
Enter choice : 4
Display
1 1 6

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