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LAB 9

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```
#include <stdio.h>
#include<stdlib.h>
void insert_left();
void del();
void display();
struct node
{
int data;
struct node *next;
struct node *prev;
};
struct node * head = NULL;
int main()
{
int choice;
while (choice != 4)
{
printf("1. Insert left \n");
printf("2. Delete \n");
printf("3. Display \n");
printf("4. Exit \n");
printf("Enter your choice \n");
scanf("%d", &choice);
if(choice == 1)
insert_left();
```

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```
else if(choice ==2)
del();
else if(choice==3)
display();
else if(choice==4)
break;
} return 0;
}
void insert_left()
{
struct node *new_node;
new_node =(struct node*) malloc (sizeof(struct
node));
printf("Enter the item:\n");
scanf("%d",&new_node->data);
new_node->next =NULL;
new_node->prev =NULL;
if(head ==NULL)
{
  head= new_node;
} else
{
  new_node-> next = head;
  head->prev = new_node;
  head =new_node;
}
```

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```
} void del()
{
 struct node *temp;
int ele;
 if(head == NULL)
{ printf("Empty List\n");
return;
 } printf("Enter the element to be deleted:");
scanf("%d", &ele);
temp = head;
while (temp -> data != ele)
{
temp = temp -> next;
if (temp == NULL)
{
 printf("Element is not in the list\n");
break; }
}
if (temp == head)
{   head = head -> next;
}
 else if (temp -> next == NULL)
{
  temp = temp -> prev;
   temp -> next = NULL;
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```
} else
 {
    temp->prev->next = temp->next;
    temp->next->prev = temp->prev;
}
}
 void display()
{
 Struct node *temp;
  temp = head;
 while(temp != NULL)
{
 printf("%d\t", temp->data);
  temp = temp->next;
}
 print("\n");
}
```