Instructions: Please read carefully

- Please rename this file as only your ID number **(e.g. 18-*****-1.doc or 18-*****-1.pdf).**
- Submit the file within the given time in Portal Lab Performance section labeled **Lab task -7.** **If you cannot complete the full task, do not worry. Just upload what you have completed.s**

Do the following to write program for a Single Linked List:

Create a singly linked list by inserting node one by one at the end.
Insert a node at the head
Insert a node at the tail
Display your list
Insert a new item at a specific position (after a given node)
Search an item into your linked list.
Delete an item from the list (at beginning, at last and at middle)

Your code here:

```
#include<iostream>
#include<conio.h>
using namespace std;

struct node
{
   int data;
   node* next;
};
node* h=NULL;
node* n;
node* t;
void create(int s)
{
   int val;
   cout<<"Enter Data : ";
   for(int i=0;i<s;i++)
   {
       cin>>val;
   n=new node;
   n->data=val;
   n->next=NULL;
   if(h==NULL)
      h=n;
   else
      t->next=n;
   t=n;

   }
}
void insert_head(int val)
{
  n=new node;
  n->data=val;
  n->next=h;
  h=n;
```

```
}
void insert_tail(int val)
{
   node* temp=h;
   while(temp->next!=NULL)
   {
      temp=temp->next;
   }
   n=new node;
   n->data=val;
   n->next=NULL;
   temp->next=n;

}
void insertAfter(int r ,int val )
{
  node* temp=h;
  while(temp->data!=r && temp->next!=NULL)
  {
    temp=temp->next;
  }
  if(temp->data==r)
  {
     n=new node;
     n->next=temp->next;
     temp->next=n;
     n->data=val;
  }
  else
   cout<<"\n\n Can't insert. "<<r<<" Not Found in the link list"<<endl;
}
void Search(int r)
{
    node* temp=h;
  while(temp->data!=r && temp->next!=NULL)
  {
    temp=temp->next;
  }
  if(temp->data==r)
  {
     cout<<"\n\n "<<r<<" Found in the link list"<<endl;
  }
  else
   cout<<"\n "<<r<<" Not Found in the link list"<<endl;
}
void Delete(int r)
{
    node* temp=h;
    if (temp->data==r)
    {
       h=h->next;
       cout<<"\n "<<r<<" Deleted From link list"<<endl;
```

```
    }

    else{

  while(temp->next->data!=r && temp->next!=NULL)
  {
    temp=temp->next;
  }
  if(temp->next->data==r)
  {
     temp->next=temp->next->next;
     cout<<"\n "<<r<<" Deleted From link list"<<endl;
  }
 else
   cout<<"\n "<<r<<" Not found in link list"<<endl;

    }

}
void display()
{
   node* temp=h;
   while(temp!=NULL)
   {
      cout<<temp->data<<" ";
      temp=temp->next;
   }

}
int main()
{
   int s;
   cout<<"How Many Data you Want to take First? : ";
   cin>> s;
   create(s);

   cout<<"\n\n Data in the linked list : ";
   display();

   insert_head(0);
   cout<<"\n\n Display after Insert a node at the head : ";
   display();

   insert_tail(6);
   cout<<"\n\n Display after Insert a node at the tail : ";
   display();

   insertAfter(5,7);
   cout<<"\n\n Display after Insert a new item at a specific position  : ";
   display();

   Search(6);
   Search(8);
```

```
   Delete(4);
   cout<<"\n\n Display after Delete a node : ";
   display();

   getch();
}
```

Your whole Screenshot here: (Console Output):