Assignment

**STACK Implementation with Linked List**

**Code**

#include <iostream>

#include <string.h>

using namespace std;

struct Node{

int stu\_no;

char stu\_name[50];

int p;

Node \*next;

};

Node \*top;

class stack{

public:

void push(int n,char name[],int perc);

void pop();

void display();

};

void stack :: push(int n,char name[],int perc)

{

struct Node \*newNode=new Node;

newNode->stu\_no=n;

newNode->p=perc;

strcpy(newNode->stu\_name,name);

newNode->next=top;

top=newNode;

}

void stack ::pop()

{

if(top==NULL){

cout<<"List is empty!"<<endl;

return;

}

cout<<top->stu\_name<<" is removed."<<endl;

top=top->next;

}

void stack:: display()

{

if(top==NULL){

cout<<"List is empty!"<<endl;

return;

}

struct Node \*temp=top;

while(temp!=NULL){

cout<<temp->stu\_no<<" ";

cout<<temp->stu\_name<<" ";

cout<<endl;

temp=temp->next;

}

cout<<endl;

}

int main(){

stack s;

char ch;

do{

int n;

cout<<"ENTER CHOICE\n"<<"1.Push\n"<<"2.Pop\n"<<"3.Display\n";

cout<<"Make a choice: ";

cin>>n;

switch(n){

case 1:

Node n;

cout<<"Enter details of the element to be pushed : \n";

cout<<"Roll Number : ";

cin>>n.stu\_no;

cout<<"Enter Name: ";

std::cin.ignore(1);

cin.getline(n.stu\_name,50);

//push data into the stack

s.push(n.stu\_no,n.stu\_name,n.p);

break;

case 2 :

s.pop();

break;

case 3 :

s.display();

break;

default :

cout<<"Invalid Choice\n";

}

cout<<"Do you want to continue ? : ";

cin>>ch;

}while(ch=='Y'||ch=='y');

return 0;

}

**Output**

