**ROLL NO:-45**

**NAME : Harshit Atul Chilvirwar**

**PRACTICAL NO:-**

**PRACTICAL NAME :- IMPLEMENTATION OF STACK UISNG LINKED LIST**

#include"iostream.h"

#include"conio.h"

class NODE

{

public:

int data;

NODE \*link;

};

class STACK

{

NODE\*top;

public:

STACK();

void PUSH(int);

int POP();

void PEEP();

void VIEW();

int IS\_EMPTY();

};

STACK::STACK()

{

top=NULL;

}

void STACK::PUSH(int ele)

{

NODE\*NN;

NN=new NODE();

if(NN==NULL)

{

cout<<endl<<"List is Full";

return;

}

NN->data=ele;

NN->link=NULL;

if(top==NULL)

top=NN;

else

{

NN->link=top;

top=NN;

}

}

int STACK::POP()

{

if(top==NULL)

{

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

return NULL;

}

int ele=top->data;

NODE\*TEMP=top;

top=top->link;

delete TEMP;

return ele;

}

int STACK::IS\_EMPTY()

{

if(top==NULL)

return 1;

else

return 0;

}

void STACK::PEEP()

{

cout<<top->data;

}

void STACK::VIEW()

{

if(top==NULL)

{

cout<<endl<<"list is empty";

return;

}

NODE\*ptr=top;

cout<<endl<<"List is element are:";

while(ptr !=NULL)

{

cout<<ptr->data<<" ";

ptr=ptr->link;

}

}

void MENU()

{

int ele,opt;

STACK obj;

do

{

cout<<endl<<"\_\_\_\_\_";

cout<<endl<<"1 Add at top";

cout<<endl<<"2 Delete from top";

cout<<endl<<"3 Return Topmost element";

cout<<endl<<"4 View the element";

cout<<endl<<"5 EXIT";

cout<<endl<<"=========\n";

cout<<endl<<"Enter your choice:";

cin>>opt;

switch(opt)

{

case 1:

cout<<endl<<"Enter element:";

cin>>ele;

obj.PUSH(ele);

obj.VIEW();

break;

case 2:

cout<<endl<<"DElete element:";

obj.POP();

obj.VIEW();

break;

case 3:

obj.PEEP();

break;

case 4:

obj.VIEW();

break;

case 5:

return;

default:

cout<<endl<<"invalid input";

}

}while(1);

}

void main()

{

clrscr();

MENU();

getch();

}