Rajvaibhav Rahane

17u283 223045

SE-C Comp,Viit,Pune

***CODE:***

/\*

\*

\*@Rajvaibhav Rahane

\*/

/\*

\* Program to Demonstrate Stack Operations using SLL

\* implements push,pop,clearStack,printStack methods.

\*/

#include<iostream>

using namespace std;

struct Node{

int data;

Node \*next;

};

int popElementFromStack(Node \*\*head){ //pop element from stack, pass by ref

if(\*head!=NULL){

Node \*removedNode=\*head;

\*head=(\*head)->next;

int element=removedNode->data;

delete removedNode;

return element;

}else{

return -1;

}

}

void pushElementToStack(Node \*\*head,int element){ //push to stack, pass by ref

Node \*newNode=new Node;

newNode->next=\*head;

newNode->data=element;

\*head=newNode;

}

void printStack(Node \*head){ //print stack, pass by value

Node \*temp=head;

while(temp!=NULL){

cout<<temp->data<<" ";

temp=temp->next;

}

cout<<endl;

}

void clearStack(Node \*\*head){ //clear Stack, pass by ref

Node \*temp;

while(\*head!=NULL){

temp=\*head;

\*head=(\*head)->next;

delete temp;

}

cout<<"Clear Stack Called\n";

}

void printMenu(){ //print menu

cout<<"1)Push element to stack\t";

cout<<"2)Pop Element from stack\t";

cout<<"3)Print stack\t";

cout<<"4)Clear Stack\t";

cout<<"5)Exit\n";

}

int main(){ //ui

Node \*head=NULL;

int choice,element;

do{

printMenu();

cout<<"Choice : ";cin>>choice;

switch(choice){

case 1:{

cout<<"Element ";cin>>element;

pushElementToStack(&head,element);

break;

}

case 2:{

element=popElementFromStack(&head);

if(element!=-1)cout<<element<<endl;

else cout<<"Empty Stack\n";

break;

}

case 3:{

printStack(head);

break;

}

case 4: case 5:{

clearStack(&head);

break;

}

default:cout<<"Invalid Input,Try again\n";

}

}while(choice!=5);

return 0;

}

***Output:***

