#include<iostream>

#include<cstdlib>

using namespace std;

/\*

Node Declaration

\*/struct node

{

int info;

struct node\*link;

}\*top;

/\* Class Declaration

\*/

class stack\_list{

public:

node\*push(node\*,int);

node\*pop(node\*);

void traverse(node\*);

stack\_list()

{

top=NULL;

}

};

/\* Main: Contains Menu

\*/

int main()

{

int choice,item;

stack\_list sl;

while(1)

{

cout<<"\n-------------"<<endl;

cout<<"Operations on Stack"<<endl;

cout<<"\n-------------"<<endl;

cout<<"1.Push Element into the Stack"<<endl;

cout<<"2.Pop Element from the Stack"<<endl;

cout<<"3.Traverse the Stack"<<endl;

cout<<"4.Quit"<<endl;

cout<<"Enter your Choice:";

cin>>choice;

switch(choice)

{

case 1:

cout<<"Enter value to be pushed into the stack:";

cin>>item;

top=sl.push(top,item);

break;

case 2:

top=sl.pop(top);

break;

case 3:

sl.traverse(top);

break;

case 4:

exit(1);

break;

default:

cout<<"Wrong Choice"<<endl;

}

}

return 0;

}

/\* Push Element into the Stack

\*/

node\*stack\_list::push(node\*top,int item)

{

node\*tmp;

tmp=new (struct node);

tmp->info=item;

tmp->link=top;

top=tmp;

return top;

}

/\*

\* Pop Elemnt from the Stack

\*/

node\*stack\_list::pop(node\*top)

{

node\*tmp;

if(top==NULL)

cout<<"Stack is Empty"<<endl;

else

{

tmp=top;

cout<<"Element Popped:"<<tmp->info<<endl;

top=top->link;

delete(tmp);

}

return top;

}

/\*

Traversing the Stack

\*/

void stack\_list::traverse(node\*top)

{

node\*ptr;

ptr=top;

if(top==NULL)

cout<<"Stack is empty"<<endl;

else

{

cout<<"Stack elements:"<<endl;

while(ptr!=NULL)

{

cout<<ptr->info<<endl;

ptr=ptr->link;

}

}

}