***DATA STUCTURES AND ALGORITHM***

***LAB-8***

Object: Code a menu based program of Stack using linked list which have the following options:

1. Push
2. Pop
3. Display
4. Exit

**Code:**

#include<iostream>

#include<conio.h>

using namespace std;

struct Node

{

int data;

Node \*next;

}\*top=NULL,\*p;

Node\* newnode(int x)

{

p=new Node;

p->data=x;

p->next=NULL;

return(p);

}

void push(Node \*q)

{

if(top==NULL)

top=q;

else

{

q->next=top;

top=q;

}

}

void pop()

{

if(top==NULL)

{

cout<<"Stack is empty!!";

}

else

{

cout<<"Deleted element is "<<top->data;

p=top;

top=top->next;

delete(p);

}

}

void showstack()

{

Node \*q;

q=top;

if(top==NULL)

{

cout<<"Stack is empty!!";

}

else

{

while(q!=NULL)

{

cout<<q->data<<" ";

q=q->next;

}

}

}

void main()

{

int ch,x;

Node \*nptr;

while(1)

{

cout<<"\n\n1.Push\n2.Pop\n3.Display\n4.Exit";

cout<<"\nEnter your choice(1-4):";

cin>>ch;

switch(ch)

{

case 1: cout<<"\nEnter data:";

cin>>x;

nptr=newnode(x);

push(nptr);

break;

case 2: pop();

break;

case 3: showstack();

break;

case 4: exit(0);

default: cout<<"\nWrong choice!!";

}

}

getch();

}

**Output:**



