**PROGRAM: 27**

**14-10-2019** **CLASS STACK IMPLEMENTATION- LINKED LIST**

**OBJECTIVE:**

Write a program to implement a class Stack implementation using Linked List.

**SOURCE CODE:**

#include<iostream.h>

#include<conio.h>

#include<stdlib.h>

#include<stdio.h>

struct node

{

int data;

node \*next;

};

class stack

{

node \*top;

public:

stack()

{ top=NULL;

}

void push();

void pop();

void show();

};

void stack::push()

{ node \*ptr =new node;

if(!ptr)

{cout<<" error: full";

return;

}

cout<<"Enter a number to insert: ";

cin>>ptr->data;

ptr->next=top;

top=ptr;

cout<<"\nNew item is inserted to the stack!!!";

}

void stack::pop()

{

node \*temp;

if(top==NULL)

{

cout<<"\nThe stack is empty!!!";

}

temp=top;

top=top->next;

cout<<"\nPOP Operation........\nPoped value is "<<temp->data;

delete temp;

}

void stack::show()

{ node \*ptr;

if(top==NULL)

{

cout<<"\nThe stack is empty!!!";

}

else

{ptr=top;

while(ptr!=NULL)

{cout<<ptr->data;

cout<<" ";

ptr=ptr->next;

}

}

}

void main()

{

stack q;

int choice;

while(1)

{

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

cout<<"\n\t\tSTACK USING LINKED LIST\n\n";

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

cout<<"~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~"<<endl;

cout<<"\t\tMENU\n";

cout<<"~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~"<<endl;

cout<<"\n1PUSH";

cout<<"\n2:POP";

cout<<"\n3:DISPLAY STACK";

cout<<"\n4:EXIT";

cout<<"\nEnter your choice : ";

cin>>choice;

switch(choice)

{

case 1:

q.push(); break;

case 2:

q.pop(); break;

case 3:

q.show(); break;

case 4:

exit(0);

default:

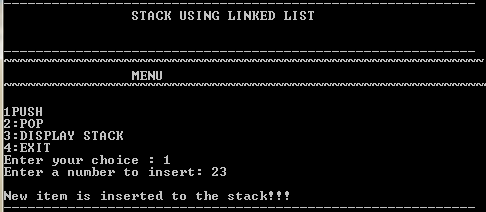
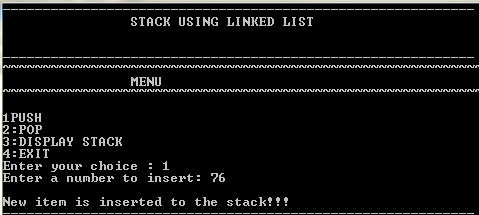
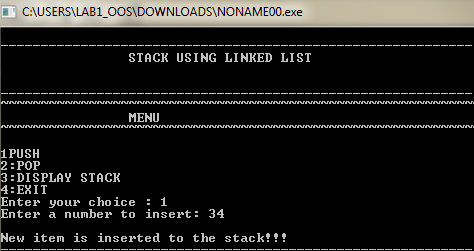
cout<<"\nPlease enter correct choice(1-4)!!";

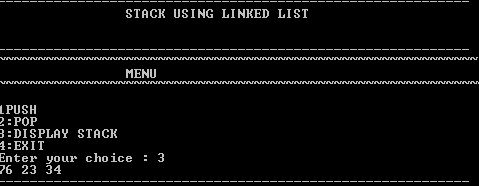
break;

} }

getch(); }

**SAMPLE OUTPUT:**

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