**COMPITATIVE PROGRAMMING**

**AM.SC.P2CSC19034**

**SRUTHY P R**

**STACK IMPLEMENTATION USING LINKED LIST:**

#include <iostream>

#include<stdlib.h>

using namespace std;

struct Node {

int data;

struct Node \*next;

};

struct Node\* top = NULL;

void push(int val) {

struct Node\* newnode =(struct Node\*) malloc(sizeof(struct Node));

newnode->data = val;

newnode->next = top;

top = newnode;

}

void pop() {

if(top==NULL)

cout<<"Empty stack"<<endl;

else {

cout<<"The popped element is "<< top->data <<endl;

top = top->next;

}

}

void display() {

struct Node\* ptr;

if(top==NULL)

cout<<"Empty stack";

else {

ptr = top;

cout<<"Stack elements are: ";

while (ptr != NULL) {

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

ptr = ptr->next;

}

}

cout<<endl;

}

int main() {

int ch, val;

cout<<"1) Push in stack"<<endl;

cout<<"2) Pop from stack"<<endl;

cout<<"3) Display stack"<<endl;

cout<<"4) Exit"<<endl;

do {

cout<<"Enter choice: ";

cin>>ch;

switch(ch) {

case 1: {

cout<<"Enter value to be inserted:";

cin>>val;

push(val);

break;

}

case 2: {

pop();

break;

}

case 3: {

display();

break;

}

case 4: {

cout<<"Exit"<<endl;

break;

}

default: {

cout<<"Invalid Choice"<<endl;

}

}

}while(ch!=4);

return 0;

}

**OUTPUT:**

