**YASH GUPTA**

**1BM21CS251**

**Q: Stack Implementation using Pointers**

**Code:-**

#include <stdio.h>

#include<stdlib.h>

#define size 3

struct stack{

int s[size];

int top;

};

void push(struct stack \*p)

{

if((p->top)>=(size-1)){

printf("stack overflow\n");

}

else{

printf("enter the value to push\n");

int n;

scanf("%d",&n);

p->top++;

p->s[p->top]=n;

}

};

int pop(struct stack \*p)

{

if(p->top==-1){

printf("stack underflow\n");

return;

}

else{

int n;

n=p->s[p->top];

p->top--;

return n;

}

};

void display(struct stack \*p){

if(p->top==-1){

printf("empty stack\n");

return;

}

else{

for(int i=(p->top);i>-1;i--){

printf("%d\n",p->s[i]);

}

}

};

int main(){

struct stack st;

st.top=-1;

int choice;

int del;

while(1){

printf("1.PUSH\n2.POP\n3.DISPLAY\n4.EXIT\n");

scanf("%d",&choice);

switch(choice){

case 1: push(&st);

break;

case 2: del=pop(&st);

printf("popped element: %d\n",del);

break;

case 3: display(&st);

break;

case 4: exit(0);

default:printf("enter a valid choice\n");

}

}

return 0;

}

**Output:-**

