**Assignment 2**

**Aim: Write a program to implement PUSH, POP, PEEP, DISPLAY functions on a Stack using Arrays.**

**Source Code:**

#include<iostream>

#include<stdlib.h>

#include<windows.h>

#define MAX 20

int top = -1;

using namespace std;

struct data

{

int arr[MAX];

};

class Stack

{

private:

data dat;

public:

void push(int);

void pop();

void display();

void peep() const;

};

void Stack::push(int element)

{

if (top >= MAX - 1)

cout << "\n\n STACK OVERFLOW\n" << endl;

else{

top = top + 1;

dat.arr[top] = element;

cout << "\n Element " << element << " added to the Stack.\n" << endl;

}

}

void Stack::pop()

{

int x;

if (top < 0)

cout << "\n\n STACK UNDERFLOW\n" << endl;

else{

x = dat.arr[top];

cout << "\n The Deleted Element is : " << x << endl;

top = top-1;

}

}

void Stack::display()

{

cout << "\n"

<< "\n Elements present in the Stack are : \n\n";

for (int i = 0; i <= top; i++)

cout << " " << dat.arr[i];

cout << "\n\n";

}

void Stack::peep() const

{

if (top == -1)

cout << "\n\n The Stack is Empty.\n" << endl;

else

cout << "\n\n The Element at the top of the Stack is : "

<< dat.arr[top] << "\n" << endl;

}

int main()

{

Stack s;

int choice, element;

do {

//system("cls");

cout << "\n\n 1. PUSH\n"

<< " 2. POP\n"

<< " 3. PEEP\n"

<< " 4. DISPLAY\n"

<< " 5. EXIT\n\n"

<< " Enter your choice (1-5) : ";

cin >> choice;

switch (choice){

case 1:

cout << "\n Enter the Element to be Pushed to the Stack : ";

cin >> element;

s.push(element);

break;

case 2:

s.pop();

break;

case 3:

s.peep();

break;

case 4:

s.display();

break;

}

} while (choice < 5);

return 0;

}