BHARATIYA VIDYA BHAVAN'S

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DEPARTMENT OF MASTER OF COMPUTER APPLICATION

CLASS: F.Y. MCA **SEM: I**

COURSE CODE: MC501 **SUBJECT NAME: DATA STRUCTURES LAB**

ROLL NO. : _2023510001___ **BATCH: _D_**

NAME:__VAIBHAV AGARWAL____

EXPERIMENT NO: 01

EXPERIMENT TITLE: stack using array representation

implement Push and pop operations

CODE:

```
//VAIBHAV AGARWAL_2023510001_STACK IMPLEMENTATION

#include<iostream>
using namespace std;
int stk[50], size, ch, top, element;

class stack
{

    public:
        void initialise()
        {
            top = -1;
            cout<<endl<<"Enter Stack Size: ";
            cin>>size;
        }

        void menu()
        {
            do
            {
              cout<<endl<<"Enter your choice \n 1.Push \n 2.Pop \n 3.Display \n
4.Exit"<<endl ;
              cin>>ch;
              switch (ch)
              {
                     case 1:
                            push();
                            break;

                     case 2:
                            pop();
                            break;

                     case 3:
                            display();
                            break;

                     case 4:
                            break;
```

```
            default:
                  cout<<"Enter proper choice! "<<"\n";
      }
    } while (ch!=4);
}

void push()
{
    if(top == size-1)
    {
        cout<<endl<<"Stack overflow! Can't add more";
    }
    else
    {
        cout<<endl<<"Enter new element: ";
        cin>>element;
        top = top+1;
        stk[top]=element;
        cout<<endl<<"Element is inserted!";
    }
}

void pop()
{
    if(top==-1)
    {
        cout<<endl<<"Underflow! Can't remove any ";
    }
    else
    {
        element = stk[top];
        top = top-1;
        cout<<endl<<element<<" is deleted ";
    }
}

void display()
{
    if(top==-1)
    {
        cout<<endl<<"No elements to display";
    }
    else
    {
        cout<<"Elements in Stack are: ";
    for(int i = 0; i<=top; i++)
            {
                cout<<stk[i]<<"  ";
            }
    }
```

```
        }
};

int main()
{
    stack s;
    s.initialise();
    s.menu();
    return 0;
}
```