```
/*WAP to show array implementation of stack.*/
#include <iostream>
using namespace std;
int MAXSIZE = 8;
int stack[8];
int top = -1;
int isempty()
{
   if(top == -1)
      return 1;
   else
      return 0;
}
int isfull()
{
   if(top == MAXSIZE)
      return 1;
   else
      return 0;
}
int peek()
{
   cout<<stack[top]<<endl;
}
void pop()
{
   int data;
   if(!isempty())
   {
      data = stack[top];
      top--;
      cout<<data<<endl;
   }
   else
   {
      cout<<"Could not retrieve data, Stack is empty."<<endl;
   }
```

```
}
void push()
{
   int data;
   if (!isfull())
   {
      cout<<"Enter data to push: ";
      cin>>data;
      top++;
      stack[top] = data;
   }
   else
   {
      cout<<"Could not insert data, Stack is full."<<endl;
   }
}
int main()
{
   int a;
   char choice;
   while(1)
   {
      cout<<"Enter followng keys to perform varous operations.\n";
      cout<<"1 for push item in stack.\n";
      cout<<"2 for pop item from stack.\n";
      cout<<"3 for peek first element in stack.\n";
      cin>>a;
      if (a==1)
      {
         push();
      }
      else if (a==2)
      {
         pop();
      }
      else if (a==3)
      {
```

```
            peek();
        }
    }
    return 0;
}

/*WAP to show array implementation of stack.*///or
#include<iostream>
#define max 10
using namespace std;
template<class T>
class Stack
{
    T data[max];
    int top;
public:
    Stack():top(-1) {}
    void push(T value)
    {
        if(top==max-1)
        {
            cout<<"overflow"<<endl;
        }
        else
            data[++top]=value;
    }
    void pop()
    {
        if(top==-1)
        {
            cout<<"underflow"<<endl;
        }
        else
        {
            cout<<data[top--]<<" is poped" <<endl;
        }
    }
```

```
    void peek()
    {
        if(top==-1)
        {
            cout<<"underflow"<<endl;
        }
        else
        {
            cout<<data[top]<<" is in top"<<endl;
        }
    }
    void display()
    {
        cout<<"------------------XX--------------"<<endl;
        for(int i=top; i>-1; i--)
        {
            cout<<data[i]<<endl;
        }
        cout<<"------------------XX--------------"<<endl;
    }
};
int main()
{
    Stack<int> arr;
    int val;
    int choice=-1;
    while(choice!=0)
    {
        cout<<"choose::"<<endl;
        cout<<"\t1-push"<<endl;
        cout<<"\t2-pop"<<endl;
        cout<<"\t3-peek"<<endl;
        cout<<"\t4-display stack"<<endl;
        cout<<"\t0-exit"<<endl;
        cin>>choice;
        switch(choice)
        {
```

```
        case 1:
            cout<<"enter a value: ";
            cin>>val;
            arr.push(val);
            break;
        case 2:
            arr.pop();
            break;
        case 3:
            arr.peek();
            break;
        case 4:
            arr.display();
            break;
        case 0:
            cout<<"XXXXXXXXXXXXXXXXXXXXXXXXXX"<<endl;
            cout<<"\tTHANKS"<<endl;
            cout<<"XXXXXXXXXXXXXXXXXXXXXXXXXX"<<endl;
            break;
        }
    }
    return 0;
}
```