```
#include<iostream>
using namespace std;
class stack
{
    int s[20],top,x,n;
    public:
        stack()
        {
            top=-1;
            cout<<"\nEnter stack size:";
            cin>>n;
            cout<<"\nEnter "<<n<<" elements:";
            for(int i=0;i<n;i++)
            {
            cin>>s[i];
            top++;
            }
        }
        void push();
        void pop();
        void display();
        void isfull();
        void isempty();
        void stacktop();
        void peep();
};

void stack :: push()
{
    if(top==n-1)
    {
        cout<<"\nStack is full";
    }
    else
    {
        cout<<"\nEnter X value:";
        cin>>x;
        top++;
        s[top]=x;
    }
}

void stack :: pop()
{
    if(top==-1)
    {
        cout<<"\nStack is empty";
    }
    else
    {
        cout<<s[top]<<" is deleted";
        top--;
    }
}

```

```
56: void stack :: display()
57: {
58:     if(top==-1)
59:     {
60:         cout<<"\nStack is empty";
61:     }
62:     else
63:     {
64:         cout<<"The elements are...\n";
65:         for(int i=0;i<=top;i++)
66:         {
67:             cout<<s[i]<<"\t";
68:         }
69:     }
70: }
71:
72: void stack :: isfull()
73: {
74:     if(top== n-1)
75:     {
76:         cout<<"\nStack is full";
77:     }
78:     else
79:     {
80:         cout<<"\nStack is not full";
81:     }
82: }
83:
84: void stack :: isempty()
85: {
86:     if(top==-1)
87:     {
88:         cout<<"\nStack is empty";
89:     }
90:     else
91:     {
92:         cout<<"\nStack is not empty";
93:     }
94: }
95:
96: void stack :: stacktop()
97: {
98:     if(top==-1)
99:     {
100:         cout<<"\nStack is empty";
101:     }
102:     else
103:     {
104:         cout<<s[top];
105:     }
106: }
107:
108: void stack :: peep()
109: {
110:     if(top==-1)
```

```
111:     {
112:         cout<<"\nStack is empty";
113:     }
114:     else
115:     {
116:         int i;
117:         cout<<"\nEnter i value:";
118:         cin>>i;
119:         if(top-i+1 >= 0)
120:         {
121:             cout<<s[top-i+1];
122:         }
123:         else
124:         {
125:             cout<<"\nUnderflow";
126:         }
127:     }
128: }
129:
130: int main()
131: {
132:     int ch;
133:     stack ob;
134:
     cout<<"\n1.Push()\t2.Pop()\t3.display()\t4.isfull()\t5.isempty\t6.Stacktop()\t7.Peep()";
135:     do
136:     {
137:         cout<<"\nEnter your choice:";
138:         cin>>ch;
139:         switch(ch)
140:         {
141:             case 1:
142:                 ob.push();
143:                 break;
144:             case 2:
145:                 ob.pop();
146:                 break;
147:             case 3:
148:                 ob.display();
149:                 break;
150:             case 4:
151:                 ob.isfull();
152:                 break;
153:             case 5:
154:                 ob.isempty();
155:                 break;
156:             case 6:
157:                 ob.stacktop();
158:                 break;
159:             case 7:
160:                 ob.peep();
161:                 break;
162:             default:
163:                 cout<<"\nInvalid choice...";
164:         }
```

```
165:     }while(ch<=7);
166:
167:     return 0;
168: }
169:
```