

```

1 #include <iostream>
2 #include <string>
3
4 class Stack {
5 private:
6     int *_list;
7     int _length;
8     int _maxSize;
9     std::string _name;
10
11 public:
12     Stack(int maxSize, std::string name) {
13         _list = new int[maxSize];
14         for(int i = 0; i < maxSize; i++)
15             _list[i] = 0;
16         _maxSize = maxSize;
17         _length = 0;
18         _name = name;
19     }
20
21     ~Stack() { delete[] _list; }
22
23     int length() { return _length; }
24
25     int maxSize() { return _maxSize; }
26
27     std::string getName() { return _name; }
28
29     bool isEmpty() { return _length == 0; }
30
31     bool isFull() { return _length == _maxSize; }
32
33     int top() {
34         if(!isEmpty())
35             return _list[_length-1];
36         else
37             return -1;
38     }
39
40     void push(int value) {
41         if(!isFull())
42             _list[_length++] = value;
43     }
44
45     int pop() {
46         int value;
47         if(_length > 0) {
48             value = _list[_length-1];
49             _list[--_length] = 0;
50         } else
51             value = 0;
52         return value;
53     }
54 };
55

```