

# 运算符重载

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## 代码

```
1  #include<bits/stdc++.h>
2  using namespace std;
3
4  class MyPoint
5  {
6      int x, y;
7
8      public:
9          MyPoint(int x = 0, int y = 0)
10         {
11             this->x = x;
12             this->y = y;
13         }
14
15         int getX()
16         {
17             return x;
18         }
19
20         int getY()
21         {
22             return y;
23         }
24         // 参数列表带 int 默认后增，反之前增
25         const MyPoint operator++(int)
26         {
27             cout << "后增 post - increment" << endl;
28             MyPoint old(x, y);
29             x++;
30             y++;
31             return old;
32         }
33         // 返回引用避免再次调用拷贝构造函数
34         const MyPoint& operator++()
35         {
36             cout << "前增 pre - increment" << endl;
37             ++x;
38             ++y;
39             return *this;
40         }
41
42         friend const MyPoint & operator--(MyPoint &a);
```

```

43         friend const MyPoint operator--(MyPoint &a, int);
44
45         // 输出符号必须作为友元函数
46         friend ostream& operator<<(ostream &, MyPoint &);
47         friend istream& operator>>(istream &, MyPoint &);
48
49     };
50
51     const MyPoint& operator--(MyPoint &a)
52     {
53         cout << "pre - decrement" << endl;
54         --a.x;
55         --a.y;
56         return a;
57     }
58
59     const MyPoint operator--(MyPoint &a, int)
60     {
61         cout << "post - decrement" << endl;
62         MyPoint old(a.x, a.y);
63         a.x--;
64         a.y--;
65         return old;
66     }
67
68     ostream& operator<<(ostream &out, MyPoint &obj)
69     {
70         out << obj.x << ' ' << obj.y;
71         return out;
72     }
73
74     istream& operator>>(istream &in, MyPoint &obj)
75     {
76         in >> obj.x >> obj.y;
77         return in;
78     }
79
80     int main()
81     {
82         MyPoint a(1, 2);
83         MyPoint b(3, 4);
84
85         // 前增与后增
86         cout << a.getX() << ' ' << a.getY() << endl;
87         ++a;
88         a++;
89         cout << a.getX() << ' ' << a.getY() << endl;
90         // 前减与后减
91         cout << a.getX() << ' ' << a.getY() << endl;
92         --a;
93         a--;
94         cout << a << endl;
95
96         // 验证输入输出
97         MyPoint p4;
98         cin >> p4;

```

```
99     cout << p4 << endl;  
100  
101     return 0;  
102 }
```

## 运行截图

---

```
1 2  
前增 pre - increment  
后增 post - increment  
3 4  
3 4  
pre - decrement  
post - decrement  
1 2  
999 999  
999 999  
  
-----  
Process exited after 4.589 seconds with return value 0  
请按任意键继续. . . |
```