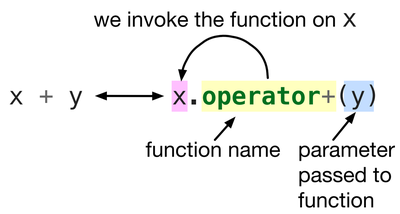



```
class Complex {
    private:
        double real;
        double img;
    public:
        Complex() {
            real = 0; img = 0;
        }
        Complex(double r, double i) {
            real = r; img = i;
        }
```

return type *function name* *input type* *object name (is y passed to rhs)*

```
        Complex operator+(Complex rhs) {
            Complex temp;
            temp.real = real + rhs.real;
            temp.img = img + rhs.img;
            return temp;
        }
};
```

real of object on which ***operator+*** *is invoked on (or x)*

real of rhs *(or y) passed to* **operator+**

return by value

Pass by reference to be **memory efficient**

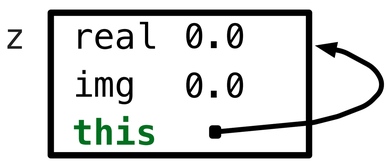
```
Complex operator+(const Complex& rhs) const {
    Complex temp;
    temp.real = real + rhs.real;
    temp.img = img + rhs.img;
    return temp;
}
```

if **rhs.real = 0;** *is written in the function, you'll get a compile-time error!*

if **real = 0;** *is written in the function, you'll get a compile-time error!*

```
z = x + y;
    x.operator+(y)
z.operator=(x+y)
```

```
z = y = x;
    y.operator=(x)
    returns original y
z.operator=(y)
    returns original z
```




```
class Complex {
    private:
        double real;
        double img;
    public:
        Complex() {
            real = 0; img = 0;
        }
        Complex(double r, double i) {
            real = r; img = i;
        }

        Complex& operator=(const Complex& rhs) {
            real = rhs.real;
            img = rhs.img;
            return *this;
        }
};
```

return by reference

didn't add **const** *as we want to change* real *and* img