```cpp
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/*
Instantiates and prints two complex numbers

checks if the complex numbers are equal to each other

Calculates, stores, and prints the sum, difference, and product of the two numbers

Calculates and prints the cubes of both complex numbers
*/

#include <iostream>
using namespace std;

class CNumber {
    friend ostream& operator << (ostream&, const CNumber&);
    friend istream& operator >> (istream&, CNumber&);
public:
    CNumber(float = 0.0, float = 0.0);

    CNumber operator + (const CNumber& rhs) const {
        return CNumber(num1 + rhs.num1, num2 + rhs.num2);
    }
    CNumber operator - (const CNumber& rhs) const {
        return CNumber(num1 - rhs.num1, num2 - rhs.num2);
    }
    CNumber operator * (const CNumber& rhs) const {
        return CNumber(((num1 * rhs.num1) - (num2 * rhs.num2)), ((num1 * rhs.num2) + (num2 * rhs.num1)));
    }
    bool operator == (const CNumber& rhs) const {
        return (num1 == rhs.num1 && num2 == rhs.num2);
    }
    bool operator != (const CNumber& rhs) const {
        return (num1 != rhs.num1 || num2 != rhs.num2);
    }
    CNumber& operator ++ () {
        CNumber temp = *this; // 1
        num1 = (temp.num1 * temp.num1 * temp.num1) - ((float)3 * temp.num1 * (temp.num2 * temp.num2));// 2
        num2 = ((float)3 * (temp.num1 * temp.num1) * temp.num2) - (temp.num2 * temp.num2 * temp.num2);//3

        return *this;// 4
    }
    CNumber operator ++ (int) {
        CNumber temp = *this;

        num1 = (temp.num1 * temp.num1 * temp.num1) - ((float)3 * temp.num1 * (temp.num2 * temp.num2));
        num2 = ((float)3 * (temp.num1 * temp.num1) * temp.num2) - (temp.num2 *
          temp.num2 * temp.num2);

        return temp;
    }
    void SetNum1(float);
    void SetNum2(float);
private:
    float num1, num2;
};
CNumber::CNumber(float a, float b) {
    SetNum1(a);
    SetNum2(b);
}
void CNumber::SetNum1(float a) {
    num1 = a;
}
void CNumber::SetNum2(float a) {
    num2 = a;
}
ostream& operator << (ostream& output, const CNumber& cNum) {
    if (cNum.num2 >= 0) {
        output << cNum.num1 << '+' << cNum.num2 << 'i';
    }
    else if (cNum.num2 <= 0) {
        output << cNum.num1 << cNum.num2 << 'i';
    }
    return output;
}
istream& operator >> (istream& input, CNumber& cNum) {
    input >> cNum.num1 >> cNum.num2;
    return input;
}

int main()
{
    CNumber num1, num2(10.0, 5.0), num3;



    cout << "1st complex number: " << num1 << endl;
    cout << "2nd complex number: " << num2 << "\n\n";

    if (num1 == num2)
        cout << num1 << " is equal to " << num2 << "\n\n";
    else if (num1 != num2)
        cout << num1 << " is not equal to " << num2 << "\n\n";

    num3 = num1 + num2;
    cout << "The sum of the complex numbers is: " << num3 << "\n\n";

    num3 = num1 - num2;
    cout << "The difference of the complex numbers is: " << num3 << "\n\n";

    num3 = num1 * num2;
    cout << "The product of the complex numbers is: " << num3 << "\n\n";



    num1++;
    cout << "The cube of num 1 is: " << num1 << endl;

    num2++;
    cout << "The cube of num 2 is: " << num2 << endl;
    return 0;
}
/*
1st complex number: 0+0i
2nd complex number: 10+5i

0+0i is not equal to 10+5i

The sum of the complex numbers is: 10+5i

The difference of the complex numbers is: -10-5i

The product of the complex numbers is: 0+0i

The cube of num 1 is: 0+0i
The cube of num 2 is: 250+1375i
*/
```