객체지향프로그래밍  
HW07 Operator Overloading

C211123 이준선

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# 코드

#include <iostream>

using std::ostream;

class Complex

{

private:

double re;

double im;

public:

Complex(double \_real) : re(\_real), im(0)

{

}

Complex(double \_real = 0, double \_imaginary = 0) : re(\_real), im(\_imaginary)

{

}

void Output()

{

std::cout << re << " + " << im << "i" << std::endl;

}

Complex &operator+=(Complex);

Complex &operator-();

friend Complex operator+(Complex &, Complex &);

friend Complex operator++(Complex &);

friend Complex operator++(Complex &, int);

friend ostream &operator<<(ostream &os, Complex &);

};

Complex &Complex::operator+=(Complex rhs)

{

re += rhs.re;

im += rhs.im;

return \*this;

}

Complex &Complex::operator-()

{

re = -re;

im = -im;

return \*this;

}

Complex operator+(const Complex &lhs, const Complex &rhs)

{

Complex temp(lhs);

temp += rhs;

return temp;

}

Complex operator++(Complex &rhs)

{

rhs.re++;

rhs.im++;

return rhs;

}

Complex operator++(Complex &rhs, int)

{

Complex temp(rhs);

rhs.re++;

rhs.im++;

return temp;

}

std::ostream &operator<<(std::ostream &os, Complex &rhs)

{

os << "(" << rhs.re << " + " << rhs.im << "i"

<< ")" << std::endl;

return os;

}

int main()

{

Complex c1(1, 2), c2(3, 4), c(9, 200);

c1.Output();

c2.Output();

c1 += c2;

c1.Output();

Complex c3 = c1 + c2;

Complex c4 = c1 += c2, c5, c6;

c3.Output();

c5 = ++c4;

c4.Output();

c5.Output();

c6 = c4++;

c4.Output();

c6.Output();

c2 = -c2;

std::cout << c2;

std::cout << c;

return 0;

}

# 실행 결과

텍스트이(가) 표시된 사진

자동 생성된 설명

# 소스 코드 (Styled Format)

#include <iostream>

using std::ostream;

class Complex

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double im;

public:

Complex(double \_real) : re(\_real), im(0)

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}

Complex(double \_real = 0, double \_imaginary = 0) : re(\_real), im(\_imaginary)

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void Output()

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friend Complex operator+(Complex &, Complex &);

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Complex &Complex::operator+=(Complex rhs)

{

re += rhs.re;

im += rhs.im;

return \*this;

}

Complex &Complex::operator-()

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re = -re;

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Complex operator+(const Complex &lhs, const Complex &rhs)

{

Complex temp(lhs);

temp += rhs;

return temp;

}

Complex operator++(Complex &rhs)

{

rhs.re++;

rhs.im++;

return rhs;

}

Complex operator++(Complex &rhs, int)

{

Complex temp(rhs);

rhs.re++;

rhs.im++;

return temp;

}

std::ostream &operator<<(std::ostream &os, Complex &rhs)

{

os << "(" << rhs.re << " + " << rhs.im << "i"

<< ")" << std::endl;

return os;

}

int main()

{

Complex c1(1, 2), c2(3, 4), c(9, 200);

c1.Output();

c2.Output();

c1 += c2;

c1.Output();

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c5 = ++c4;

c4.Output();

c5.Output();

c6 = c4++;

c4.Output();

c6.Output();

c2 = -c2;

std::cout << c2;

std::cout << c;

return 0;

}