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Subject: Object Oriented Programming

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**Lab # 05**

Task no 1:

#include <iostream>

using namespace std;

class Rectangle {

private:

double length, width;

public:

Rectangle(double l, double w) {

length = l;

width = w;

}

double area() const {

return length \* width;

}

double area(double l, double w) const {

return l \* w;

}

bool operator==(const Rectangle& other) {

if (this->area() == other.area()) {

return true;

} else {

return false;

}

}

};

int main() {

Rectangle rect1(5, 4);

Rectangle rect2(2, 8);

cout << "Rectangle 1 Area: " << rect1.area() << endl;

cout << "Rectangle 2 Area: " << rect2.area() << endl;

if (rect1 == rect2) {

cout << "Rectangle 1 and Rectangle 2 have the same area." << endl;

} else {

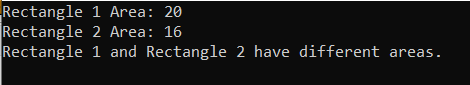
cout << "Rectangle 1 and Rectangle 2 have different areas." << endl;

}

return 0;

}

Output:



Task no 2:

#include <iostream>

using namespace std;

class Complex {

private:

double r, i;

public:

Complex(double real, double imag) {

r = real;

i = imag;

}

Complex operator\*( Complex& other) {

return Complex(

(r \* other.r) - (i \* other.i),

(r \* other.i) + (i \* other.r)

);

}

void display() {

cout << r << " + " << i << "i" << endl;

}

};

int main() {

Complex num1(3, 4), num2(1, 2);

Complex result = num1 \* num2;

cout << "Result: ";

result.display();

return 0;

}

Output:

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