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1.Write a C++ program to demonstrate the overloading of a unary operator.

Code:

#include <iostream>

using namespace std;

class Complex {

private:

double real; t

double imag;

public:

Complex(double r = 0, double i = 0) {

real = r;

imag = i;

}

void show() {

cout << real << " + " << imag << "i" << endl;

}

Complex operator - () {

return Complex(-real, -imag);

}

};

int main() {

Complex c1(3, 4);

Complex c2;

c2 = -c1;

cout << "c1 = ";

c1.show();

cout << "c2 = ";

c2.show();

return 0;

}

Output:-

c1 = 3 + 4i

c2 = -3 + -4i

2. Write a C++ program to demonstrate the overloading of a binary operator.

Code:

#include <iostream>

using namespace std;

class Fraction {

private:

int num;

int den;

public:

Fraction(int n = 0, int d = 1) {

num = n;

den = d;

}

void show() {

cout << num << "/" << den << endl;

}

Fraction operator + (Fraction f) {

int common = den \* f.den;

int sum = num \* f.den + den \* f.num;

return Fraction(sum, common);

}

};

int main() {

Fraction f1(2, 3);

Fraction f2(3, 4);

Fraction f3;

f3 = f1 + f2;

cout << "f1 = ";

f1.show();

cout << "f2 = ";

f2.show();

cout << "f3 = ";

f3.show();

return 0;

}

Output:- f1 = 2/3

f2 = 3/4

f3 = 17/12

3.What is the output of the following code? #include<iostream.h> #include<string.h> void main() { cout<<strlen(“Hello, World.\n”)<<”\n”; }

Output:-

13

4.What is the output of the following code? #include<iostream.h> void main() { int a = 20; int &n = a; n=a++; a=n++; cout<<a <<”,”<<n<<endl; }

Output:-

20,21

5.Write down a C++ program to implement function overloading.

Code:-

#include <iostream>

using namespace std;

double area(double radius) {

return 3.14 \* radius \* radius; }

double area(double length, double width) {

return length \* width;

}

double area(double base, double height, double angle) {

return 0.5 \* base \* height \* sin(angle); }

int main() {

double r = 5;

double l = 10;

double w = 8;

double b = 12;

double h = 9;

double a = 0.6;

cout << "Area of circle = " << area(r) << endl;

cout << "Area of rectangle = " << area(l, w) << endl;

cout << "Area of triangle = " << area(b, h, a) << endl; return 0;

}

Output:-

Area of circle = 78.5

Area of rectangle = 80

Area of triangle = 30.9591

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private:

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public:

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num = n;

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void show() {

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int common = den \* f.den;

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int main() {

Fraction f1(2, 3);

Fraction f2(3, 4);

Fraction f3;

f3 = f1 + f2;

cout << "f1 = ";

f1.show();

cout << "f2 = ";

f2.show();

cout << "f3 = ";

f3.show();

return 0;

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Output:- f1 = 2/3

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