

## CS 271 - Review for Final Exam

In C++ "this" is a pointer to the calling object.

this -> data\_member

or

(\*this).data\_member

### Arity

arity is the number of operands.

An operator with arity = 1 is a "unary" operator. An operator with arity = 2 is a "binary" operator.

Extra copies of the "Old Final Exam for Practice" are on the bulletin board at SH 157. Here are the solutions:

1. data members / attributes or properties
2. member functions
3. 0
4. binary scope resolution operator
5. operator overloading
6. The left operand must be an object of the class.  
Complex num1( 3, 4 );  
Complex num2( 1, -3 );  
Complex num3 = num1 + num2;  
  
+ can be overloaded as a member function of the Complex class
7. ostream& operator<< ( ostream& out, const Park& p )  
  
friend privilege allows a function to directly access private members of a class
8. ? : . :: .\*
9. constructor called,  
constructor called,  
0 0  
destructor called,  
destructor called,
10. class InsuredPackage : public Package
11. sender, senderAddress, weight  
  
all data members are inherited by the derived class  
  
what is not inherited? constructors and assignment operators  
  
=  
+=  
-=
12. line 6, line 7
13. 3 data members: x, y, and z
14. 22 - take out the parameters
15. protected

```

16. double distance ( const Standard& point1, const Standard& point2 ) {

    double a = point1.getX( ) - point2.getX( );
    double b = point1.getY( ) - point2.getY( );

    double c = sqrt( a * a + b * b );

    return c;
}

17. Substandard operator+ ( const Substandard & pointA, const Substandard & pointB ) {

    Substandard result ( pointA.getX( ) + pointB.getX( ), pointA.getY( ) + pointB.getY( ),
                          pointA.getZ( ) + pointB.getZ( ) );

    return result;
}

```

### **Default Memberwise Assignment**

```

Complex a(3,5);
Complex b;

```

```

b = a;

```

What will happen?

```

b.real is assigned the value of a.real
b.imag is assigned the value of a.imag

```

The data members of the right-side object are assigned, one-by-one, to the data members of the left-side object.