Philip Pesic

Week 12

November 6 2022

Week 12 Lecture 10 Notes

Types of relationships

Object Oriented Programming often consists of many classes. The relationships between these classes are called, well, relationships, but the types of relationships can vary based on their characteristics. Some of these relationships include composition, aggregation, association, and inheritance.

Ex:

Composition - a whole HAS A part

Inheritance - a professor IS A teacher

Inheritance

Inheritance is an IS A relationship between classes, like how a dog IS AN animal. Because of the similarity of the classes in inherited relationships, inheritance often allows for code reuse. If both a dog and an animal can walk, breathe, etc, then the dog can INHERIT the properties of the animal. To inherit the properties of a class, simple declare like this:

Class DERIVED : public BASE{};

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Overriding a Function in a Class

Any functions with the same name declared in the derived class will override the functions in the base class.

Ex:

```
Class base {
function() {
Cout << “Hello”;
}
}
Class derived : public base {
function() {
Cout << “Hello Again!”
}
}
```

Output:

Hello Again!