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Week 5 Research

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1. What are the four pillars of OOP? Explain each pillar.

The four pillars of OOP are abstraction, encapsulation, inheritance and polymorphism.

Abstraction is a method of creating easy to use and maintain code by abstracting the logic away and having one variable that can be called on when needed. This is very helpful when developers notice a pattern of similar code within the same program.

Encapsulation is the practice of enclosing code in either a class, object, module of function and making it private. This helps prevent bugs or unpredictable behavior by limiting the chance unrelated pieces of code accidentally get coupled together.

Inheritance allows for objects that have a high cohesion and require multiple areas of code to do the same thing to acquire these properties and methods from another object. The original object is known as the parent object and the objects that inherit its properties and methods are called the children objects. Commonly this will create an inheritance chain.

Polymorphism requires inheritance to have been used correctly. If so, then the parent object should be able to be used like their children. In other words, they can be used to do different things apart from their original purpose.

2. What is the relationship between a class and an object?

A class is a template for creating objects. They hold the attributes and methods to be applied to the object. The object is an instance of a class. Where the values of the object are determined by the attributes and methods set by the class.

3. What is an exception and what are best practices for handling them?

An exception is an event that occurs unexpected to the way the application or program has been written. This can cause an application to crash. Best practice is to implement exception handling into your code. This can be done by using try-catch-finally blocks for when if an exception occurs. In these instances, the program will give an error message back to the user queuing them into what may have gone wrong and how to fix.

4. What is your favorite thing you learned this week?

My favorite thing I learned this week is the relationship between a class and an object. To me it is a foundation to understanding code and building functional programs. So they increased exposure makes me feel more confident going forward.

Sources:

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