10/6/22

Writing Prompt #1:

What are the four pillars of Object-Oriented Programming? Explain each pillar.

The Four Pillars of Object Oriented Programming (OOP) are:

ABSTRACTION: Exposing essential features of an object while hiding the details that don't matter or change.

> ***EXAMPLES:*** *A triangle which has three lines but different angles.*
>
> *A table which has a top, legs and allows you to put things o*n it.

ENCSPSULATION: Hiding the inner workings of the code so that certain methods are only accessible to certain areas of the code. This ensures that the object or class cannot be manipulated in a way it is not supposed to be.

> ***EXAMPLE:*** *Driving a car. All you need to know to drive a car is how to steer, use the gas/brake and shift. Knowing how this happens is not required to drive a car.*

INHERITANCE: Allows objects or classes to inherit properties from other classes.

POLYMORPHISM: One method of a class can take different forms.

> ***EXAMPLE:*** *Animals communicate differently. The "method" COMMUNICATE can take different forms (bark, meow, roar, etc)*

Writing Prompt #3:

What are the differences between checked and unchecked exceptions?

A **CHECKED** Exception is an exception that is checked by the compiler at runtime, usually declared by the **THROWS** keyword or surrounded by a **try/catch** statement.

An **UNCHECKED** Exception is NOT checked by the compiler at runtime. It is something the programmer has control of and only occurs if mistakes are made in coding. (IndexOutOfBounds error| Null Pointer error)

Research Credit: Promineo Tech Training Videos: "OOP Concepts", "Classes", "Encapsulation", "Inheritance, Abstraction and Polymorphism", "Exceptions", "Interfaces"