Week05 Research Assignment

Prompts

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

    2. What is the relationship between a Class and an Object?

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

Instructions

    *As developers, research is a constant part of our job. A common saying is that 90% of software development is Googling, and while that is an exaggeration, Google is a highly used tool in the role. This Research assignment is meant to go beyond the course curriculum and increase your understanding of relevant topics while exposing you to online resources you'll frequently use on the job. Please write a paragraph for **two (2)** of the above prompts and include URLs from where you found the information to cite your sources. Do not copy and paste text from the internet or any other source; use the information you find in your research, summarize, in your own words, the concepts. Plagiarism will result in a zero for the assignment as well as disciplinary actions.*

The four pillars of object oriented programming are Abstraction, Encapsulation, Inheritance, and Polymorphism. All four pillars work together to allow the coder to make the most dynamic and easily maintained code. Abstraction allows you to make your code more reusable and maintainable. Encapsulation allows you to show what is needed and hide what isn't. Inheritance allows you to take traits from the 'parent' object and pass it along to the 'child' objects. If inheritance has been coded correctly, you'll be able to dynamically use the code from the 'parent' objects under the 'child' objects without having to rewrite that same code every time. This is Polymorphism. Classes and objects utilize the four pillars, for example, Classes encapsulate objects which can in turn be extended or inherited to other classes. An animal class would have different objects or attributes within it such as eating, drinking, sleeping, etc. Those attributes can be passed down or extended (inheritance) to other animals within that animal class (i.e. cats, dogs, cows).

Resources:

https://www.freecodecamp.org/news/four-pillars-of-object-oriented-programming/

https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Classes