Week 5 Research

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

The four pillars of Object Oriented Programming are as follows:

a. Encapsulation - encapsulation bundles data and the codes that work with the data so they are protected and organized. This way the only data that will be seen is what the programmer intended.
b. Inheritance - allows new classes to be based on an existing class and allows it to inherit its properties.
c. Polymorphism - this allows the same task to be performed on many different objects within different classes without having to rewrite the task continuously.
d. Abstraction - hiding all of the complexity of the object and only exposing the necessary details for other parts of the code to use.

Reference:

https://backend.turing.edu/module1/lessons/four_pillars_of_oop

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

The class is the blueprint for the object. It specifies all the characteristics of the object and the way that it behaves. An object is a specific instance of the class. There can be multiple objects within the class that have similar values but behave differently.

Reference:

https://www.ncl.ucar.edu/Document/HLUs/User_Guide/classes/classoview.shtml#:~:text=A%20class%20is%20a%20template%20for%20objects.,%22instance%22%20of%20a%20class.