Day 2 Introduction to Object Oriented Programming

Object Oriented Programming is a programming paradigm/style of programming where the **focus is on the Object (data)** rather than the process.

Process Oriented Programming (aka Procedural Programming) is a programming paradigm/style where the **focus is on the process rather than the data**.

Problem: increment a variable called counter

Object-Oriented: `counter.add(1);  // object.method(parameter)`

Process Oriented: `add 1 to counter; // process is first, data second`

Principles of Object Oriented Programming (OOP):

- **Encapsulation** - **private** - Protect the data from access outside the class
- **Inheritance** - super class/ sub class - Code reuse
- **Polymorphmism** - an object can take on many forms - super class object holds subclass object
- **Abstraction*** - hide the details of an object from the user

* Although defined as a principle of OOP when the concept was first presented, some IT professionals do not include Abstraction as a principle of OOP

a **Class** is a description of the **data** an object will contain and **methods** to process that data.

an **Object** is an **instance of a class**.