Object Oriented Programming

Introduction:
There are 2 main coding paradigms, functional and object-oriented.
Object-oriented programming differs as it is built around classes for heightened reusability and encapsulation.

Inheritance:
Classes can inherit other classes. The class inheriting is called the sub class / child class. When a sub class inherits a class, depending on its access modifier, all the variables and methods are accessible to the sub class.

Access Modifiers:
Object-oriented programming allows you to define methods and member variables with access modifiers.

They generally follow this format, although it depends on the programming language.

Access Modifier:	Sub class	Global Calling
Public	Can be called be classes that inherit	Can be called by anything its included in
Protected	Can be called be classes that inherit	Can't be called by anything its included in
Private	Can't be called be classes that inherit	Can't be called by anything its included in

Polymorphism:
Methods can be defined as abstract / virtual, which allows for sub classes of their class to override their functionality.