

Exercise 1

Encapsulation

Encapsulation is when the variables in a class can only be accessed through getters and setters or other methods in the class meaning other classes do not have direct access to any raw data. This insurance that the data cannot be accidentally corrupted by improper handling by another class.

Inheritance

Inheritance is when one class has many of the same properties as a another class. instead of duplicating code the same code can be used for both classes. For example a car class can inherit from a vehicle class as a car is a vehicle and therefore a car has all the attributes of a vehicle. the same would be true for a bicycle to inherit from a vehicle class but bicycles and cars are not same thing each class still hands unique characteristics. By using inheritance and reducing the amount of code that has to be written this will in turn reduce the chance of errors in the cold.

Polymorphism

Polymorphism occur when a subclass override a method in a superclass this allows the subclass to inherit as much or as little from the superclass as is required.

Abstraction

By using abstract classes or interfaces the inner workings of a class can be hidden This is done by only getting information about what the methods required do and not disclosing how the task is completed our how data is stored.