Objects

Class Vs objects:

Class is a- blueprint/design/datatype. It has a name. The name is a noun and starts with a capital. In order to change or get values of variables, you have to go through public methods. Need methods and actions. All classes must need to communicate. Does NOT store data

Objects- In order to make a eg. bike you need to extanicate a new object. Objects are products of classes. When a class makes new data it is an object. What is the difference between an instance and class method or variable. Objects store actual data. In order to make an object you use the keyword new Eg. Bike c = newBike();

Question: Explain why you need to declare your set and get methods public? Because public means it is accessible, it needs to be public to communicate with other methods.

What is the purpose of a constructor? What does it mean to overload a constructor? Difference in shape between method and constructor? Constructor is to initialize the values. It has the same name as the class and does not have a return type.

Part 2 Inheritance

Inheritance- To gain traits. Anything that comes from the top is taken.

Superclass- The big class, subclass- the little classes extending the superclass.

Eg. Public class boat extends watervechial.

Watervichele- superclass.

Boat - subclass

Also called parent and child class. If multiple classes have the same parent class, it is known as sibling class.

Eg. public class speed extends boat.

Speed- child class

Boat- Parent class

ALSO called base and Derived.

Polymorphism- You can only do this with inheritance. When you are in a superclass you can make a object of any subclass. The superclass can point to subclass objects, but not the other way around. Can watch bucky youtube videos for help posted on classroom.

Abstract classes and interface

- An abstract class is to model an abstract concept- eg draw a shape, it can be any shape. Vehicle can be a car, train, ect.
- Is built for structure. Has regular AND abstract methods. Cannot make a object of that type, its main purpose is to be inherited.
- Abstract methods are members of abstract classes, is meant to be implemented and overwritten. Has declaration but not body.
- An interface is a class that you can not make a object of this type

From textbook: An interface is a class that contains only abstract methods. An interface can be implemented by a class, but it is not inherited. A class that implements an interface must implement each method in the interface. The Comparable interface is part of the java.lang package and is used to add a compareTo() method to classes that implement the interface.

- The main purpose of interface is to add behaviour without hierarchy

- YOU DO NOT MAKE OBJECTS FROM AN ABSTRACT CLASS. IT IS MEANT TO ONLY BE INHERITED AND FOR POLYMORPHISM.