Assignment3

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Explain polymorphism.

- Polymorphism in Java is a concept by which we can perform a single action by different ways.

What is overloading?

- Overloading is a compile time polymorphism. Which means the methods inside the same class has the same name but different signature.

What is overriding?

- Overriding is a runtime polymorphism. Which means the method in the subclass has the same name and signature with the method in the superclass.

What does the final mean in this method: public void doSomething(final Car aCar){}

- It means that the aCar’s reference cannot be changed after passing to the method.

Suppose in question 4, the Car class has a method setColor(Color color){...}, inside doSomething method, Can we call aCar.setColor(red);?

- Yes

Can we declare a static variable inside a method?

- No, because static variable is a class level variable.

What is the difference between interface and abstract class?

- Interface is the blueprint of the class, it specify what a class must do but not now. An abstract class is a class that permit the subclasses to implement or override the methods. The different between them is that the methods inside interface are all abstract, but the methods inside abstract class can be non-abstract.

Can an abstract class be defined without any abstract method?

- Yes

Since there is no way to create an object of abstract class, what's the point of constructors of abstract class?

- The main purpose of the constructor is to initialize. In abstract class, we have an instance variable, abstract methods, and non-abstract methods. We need to initialize the non-abstract methods and instance variables, therefore abstract classes have a constructor.

What is native method?

- Native methods are Java™ methods that start in a language other than Java. Native methods can access system-specific functions and APIs that are not available directly in Java. The use of native methods limits the portability of an application, because it involves system-specific code. Native methods can either be new native code statements or native code statements that call existing native code.

What is marker interface?

- A marker interface is an interface that has no methods or constants inside it. It provides run-time type information about objects, so the compiler and JVM have additional information about the object.

Why to override equals and hashCode method?

- You must override hashCode() in every class that overrides equals(). Failure to do so will result in a violation of the general contract for Object.hashCode(), which will prevent your class from functioning properly in conjunction with all hash-based collections, including HashMap, HashSet, and Hashtable.

What's the difference between int and Integer?

- int is a primitive data type and Integer is a wrapper class.

What is serialization?

- Serialization is the process of converting a data object—a combination of code and data represented within a region of data storage—into a series of bytes that saves the state of the object in an easily transmittable form.