

UWHS CSE 142 Lesson 9.1 Study Guide Key

1. What is *Code Reuse*?
 - The practice of writing program code once and using it in many contexts.
2. What does hierarchical inheritance mean?
 - It is a parent-child (hierarchical) relationship between two classes (types) in which the child receives a copy of (“inherits”) all data (fields) and behavior (methods) of the parent.
 - A way to form new classes based on existing classes, taking on their attributes and behavior.
 - A way to group related classes.
 - A way to share code between two or more classes.
3. How does inheritance help achieve code reuse?
 - Because the child class “inherits” all data and behavior from the parent, it does not have to reproduce any of the associated code or logic.
 - It allows grouping related objects/classes so behavior and data can be shared.
4. In Java, what does “*Is-a relationship*” mean?
 - A hierarchical relationship or connection (parent/child) between two things in which one is a specialized (or extended) version of the other.
 - The child is fundamentally of the same type as the first but may extend or enhance it in some way.
 - The child can be treated and interacted with as its parent because it “is-a” same thing as the parent.
5. What is a superclass?
 - The name commonly used to refer to the parent class in an inheritance relationship.
6. What is a subclass?
 - The name commonly used to refer to the child class in an inheritance relationship.
 - Gets a copy of every field and method from its superclass.
7. In Java how do we indicate that a class is a subclass of another?
 - By adding the “*extends*” keyword clause to the end of the class declaration line.
 - The subclass “*extends*” the superclass.
8. Define *method signature*.
 - The name of the method, along with its number and type of parameters.
9. What is the difference between overloading and overriding a method?
 - **Overriding:**
 - Implementing a new version of a method that exists in a superclass.
 - Must have the **exact same method signature** as the method it is overriding.
 - **Overloading:**
 - The ability to define two or more different methods with the same name **but different method signatures**.