Inheritance 2

java.lang.Object
Final classes, methods and fields
Abstract classes and methods
Object as superclass

In Java all classes ultimately inherit from one root class: `java.lang.Object`. Implemented methods:

- `clone()` returns copy of object
- `equals(Object obj)` establishes equivalence
- `finalize()` called by GC before reclaiming
- `getClass()` returns runtime class of the object
- `hashCode()` returns a hash code for the object
- `toString()` returns string representation of object
Final Classes and Methods

The `final` keyword in a class declaration states that the class *may not* be subclassed.

The `final` keyword in a method declaration states that the method *may not* be overridden.
Abstract Classes and Methods

The `abstract` keyword in a class declaration states that the class is abstract, and therefore cannot be instantiated (its subclasses may be, if they are not abstract).

The `abstract` keyword in a method declaration states that the method declaration is abstract; the implementation must be provided by a subclass.