

Object Class

CS 272 Software Development

Object Class

- All classes in Java extend the **Object** class
 - Can explicitly **extend**, otherwise implicit
- Objects are initialized via the **new** keyword*
 - Some classes (arrays, strings) have shortcuts
 - `int[] a = new int[] {1, 2, 3};`
 - `int[] a = {1, 2, 3};`

<https://www.cs.usfca.edu/~cs272/javadoc/api/java.base/java/lang/Object.html>



Object Methods

- `int hashCode()`
 - Returns a hash code of the object (similar to an id)
 - Often overridden to be based on content and not the unique object identifier (e.g. `String` class)
- `boolean equals(Object object)`
 - Returns `true` if both hash codes are equal

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Object Methods

- `Class<?> getClass()`
 - Returns a `Class` object with information such as the class name, package, etc.
- `String toString()`
 - By default returns class name and hash code
 - Usually overridden by subclasses

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Object Methods

- Object clone()
 - Returns a *shallow* copy of object
- ~~void finalize()~~
 - Called by the garbage collector to perform "housekeeping" before reclaiming memory
 - Never sure when this method is called

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Object Methods

- `void notify()`
`void notifyAll()`
`void wait(...)`
 - Related to multithreading, which is covered later
 - *Multithreading is built-in to the core of Java!*

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Questions?

