

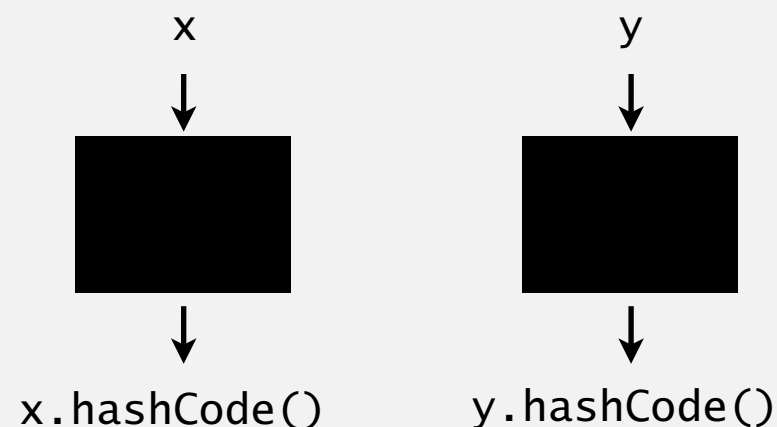
# Java's hash code conventions

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All Java classes inherit a method `hashCode()`, which returns a 32-bit int.

**Requirement.** If `x.equals(y)`, then `(x.hashCode() == y.hashCode())`.

**Highly desirable.** If `!x.equals(y)`, then `(x.hashCode() != y.hashCode())`.



**Default implementation.** Memory address of `x`.

**Legal (but poor) implementation.** Always return 17.

**Customized implementations.** Integer, Double, String, File, URL, Date, ...

**User-defined types.** Users are on their own.