

• Methods of object.

Java.lang.Object

1) toString()

- purpose

Return a string representation of the object.

- Why used.

Helpful for debugging, logging, and printing object details.

By default, it prints class name + hashcode but usually overridden.

- Ex.

className@hashcode.

2) hashCode()

- purpose

Return an integer hash value for object.

- Why used.

used in hashing-based collections such as HashMap, HashSet, Hashtable.

if equals() is overridden, hashCode() should also be overridden.

3) equals(object obj)

- purpose :

compares the current object with another object for logical equality.

- Default behavior :

checks reference equality (same memory location). usually overridden to compare values.

4) `notify()`

- purpose:

Wakes up one thread waiting on object's monitor.

- usage:

used in multithreading along with synchronized blocks.

5) `notifyAll()`

- purpose:

wakes up all threads waiting on object's monitor.

- usage:

Also used in thread communication.

6) `Wait()`

- purpose:

causes current thread to wait until another thread calls `notify()` or `notifyAll()`.

- Types:

• `Wait()`

• `wait(long timeout)`

• `wait(long timeout, int nanos)`

7) `getClass()`

- purpose

Returns runtime class object (`Class<?>`) of current object.

8) clone()

purpose:

creates and returns a copy(clone) of the object.

9) Finalize()

- purpose:

called by garbage collector before destroying object.

(Not recommended for use in modern Java)
cleanup before garbage collection.