

Function equals

```

public class Object {
    ...
    /** = "This object and object ob are
    the same object". */
    public boolean equals(Object ob) {
        return this == ob;
    }
}

```

a0 a1

c1 c2

c1.equals(c1) is true
c1.equals(c2) is false

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Overriding function equals

```

/** = "Object ob has class C & equals this object" */
public boolean equals(Object ob)

```

type must be Object.

c1 a0

c1.equals(new Integer(5)) is false

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Overriding function equals

```

/** = "Object ob has class C & equals this object" */
public boolean equals(Object ob)

```

But it should be an equality relation!
For c1, c2, c3 not null and of the same class

Reflexive: c1.equals(c1) is true.
Symmetric: c1.equals(c2) and c2.equals(c1) yield same value.
Transitive: If c1.equals(c2) and c2.equals(c3) are true, then so is c1.equals(c3).

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Specifying equals

```

/** = "Object ob has class C & equals this object" */
public boolean equals(Object ob)

```

Make specification *abstract*:
in terms of the meaning of the class, not always in terms of fields, which the user may not know about.

Example: String equality:
/** = "ob is a String and contains the same sequence of characters as this String". */
public boolean equals(Object ob)

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