

# Name

What's wrong with the following code:

```
1 import java.util.HashSet;
2 import java.util.Set;
3
4 public class Name {
5     private final String first;
6     private final String second;
7
8     public Name(final String first, final String second) {
9         this.first = first;
10        this.second = second;
11    }
12
13    public boolean equals(final Name other) {
14        return other.first == first && other.second == second;
15    }
16
17    public int hashCode() {
18        return 7 * first.hashCode() + 13 * second.hashCode();
19    }
20
21    public static void main(String[] args) {
22        Set<Name> s = new HashSet<>();
23        for (int i = 0; i < 5; i++)
24            for (char letter = 'a'; letter <= 'z'; letter++)
25                s.add(new Name(String.valueOf(letter), String.valueOf(letter)));
26        System.out.println(s.size());
27    }
28 }
```

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Bug 1: `equals()` should take an `Object` as an argument

Bug 2: string equality should be done with `str1.equals(str2)` instead of `==`

It's good practice to decorate `equals()` and `hashCode()` with `@Override`

Fix:

```
1 @Override
2 public boolean equals(final Object obj) {
3     if (this == obj) {
4         return true;
5     }
6     if (!(obj instanceof Name)) {
7         return false;
8     }
9     Name other = (Name) obj;
10    return (first != null ? first.equals(other.first) : other.first == null) &&
11           (second != null ? second.equals(other.second) : other.second == null);
12 }
```