

```
1 package hyperDap.base.testHelpers;
2
3 import static org.junit.Assert.assertFalse;
4 import static org.junit.Assert.assertTrue;
5 import org.junit.jupiter.api.Test;
6 import hyperDap.base.helpers.Comparator;
7
8 public class TestComparator {
9
10     @Test
11     void testEqualApprox() {
12         double v1 = 5.0;
13         assertTrue(Comparator.equalApprox(v1, v1, 0.0));
14         assertTrue(Comparator.equalApprox(v1, v1, 0.1));
15         assertTrue(Comparator.equalApprox(v1, v1 + 0.1, 0.1));
16         assertTrue(Comparator.equalApprox(v1, v1 - 0.1, 0.1));
17         assertFalse(Comparator.equalApprox(v1, v1 + 0.11, 0.1));
18         assertFalse(Comparator.equalApprox(v1, v1 - 0.11, 0.1));
19         assertFalse(Comparator.equalApprox(v1, v1 + 0.0000000000000001, 0.0));
20         assertFalse(Comparator.equalApprox(v1, v1 - 0.0000000000000001, 0.0));
21         assertTrue(Comparator.equalApprox(v1, v1 + 0.0000000000000001, 0.1));
22         assertTrue(Comparator.equalApprox(v1, v1 - 0.0000000000000001, 0.1));
23         assertFalse(Comparator.equalApprox(v1, Double.MAX_VALUE, 1000000));
24     }
25
26 }
27
```