Software Engineering
Lab 8

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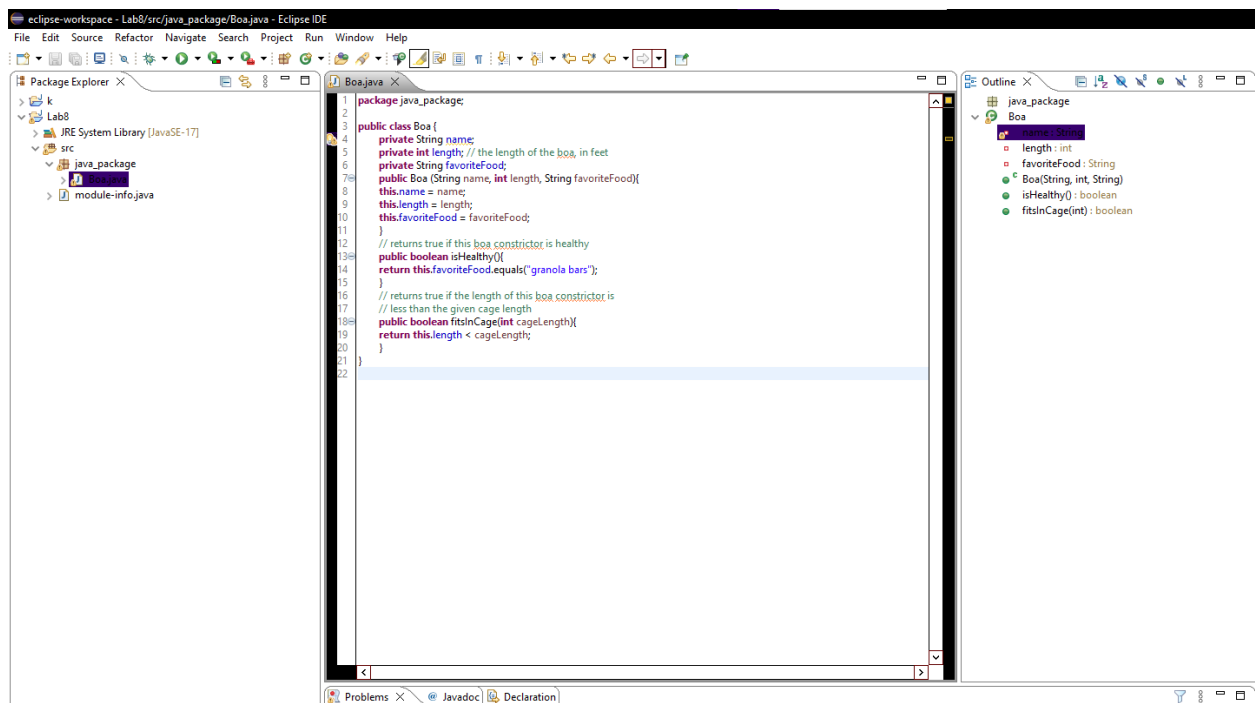
Date: 20/04/2023

Lab Exercises

1. Creating the java project :

Creating a new Eclipse project, and within the project create a package. And then creating a class for a Boa. Here's the code you can use (you may copy/paste):
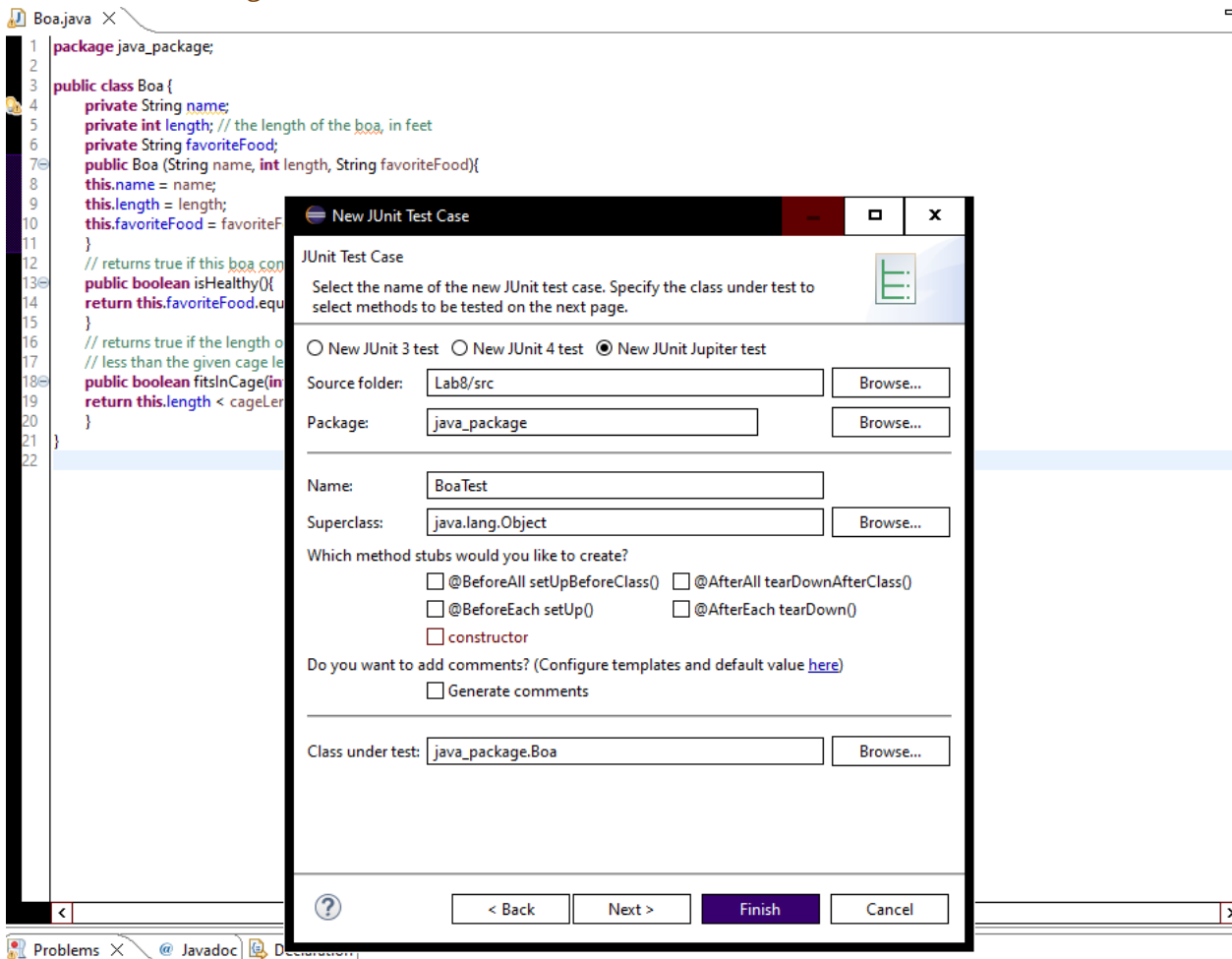As shown in the screenshot below

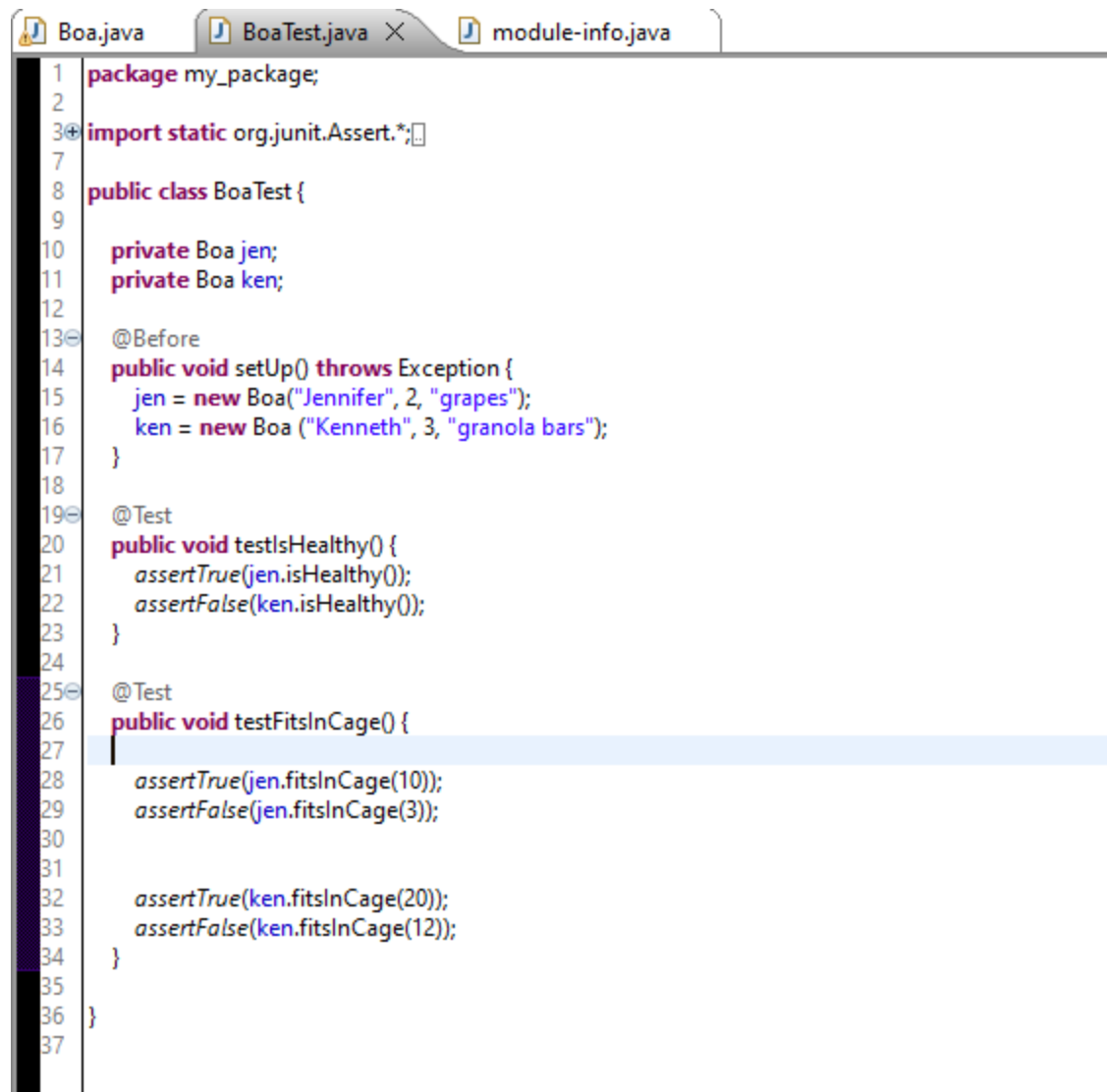## 2. Creating the new java test case :

Now I am creating test cases for the class boa

3. Defining some unit test for some methods of boa class:

 After creating the test file successfully, I've created test case for the class Boa and have selected test method stubs isHealthy() and fitsInCage(int) as shown below
Now i've written some test unit as shown above and get output as shown below

```java
 1  package my_package;
 2
 3⊕ import static org.junit.Assert.*;▯
 7
 8  public class BoaTest {
 9
10      private Boa jen;
11      private Boa ken;
12
13⊖     @Before
14      public void setUp() throws Exception {
15          jen = new Boa("Jennifer", 2, "grapes");
16          ken = new Boa ("Kenneth", 3, "granola bars");
17      }
18
19⊖     @Test
20      public void testIsHealthy() {
21          assertTrue(jen.isHealthy());
22          assertFalse(ken.isHealthy());
23      }
24
25⊖     @Test
26      public void testFitsInCage() {
27
28          assertTrue(jen.fitsInCage(10));
29          assertFalse(jen.fitsInCage(3));
30
31
32          assertTrue(ken.fitsInCage(20));
33          assertFalse(ken.fitsInCage(12));
34      }
35
36  }
37
```

4. Adding one more function to the class

Here new function lengthininches is added

Output:

File   Edit   Source   Refactor   Navigate   Search   Project   Run   Window   Help

Package Explorer   JUnit ×

Finished after 0.013 seconds

| 2/2 | 0 | 2 |

▼ my_package.BoaTest [Runner: JUnit 4] (0.002 s)
    testIsHealthy (0.001 s)
    testFitsInCage (0.001 s)

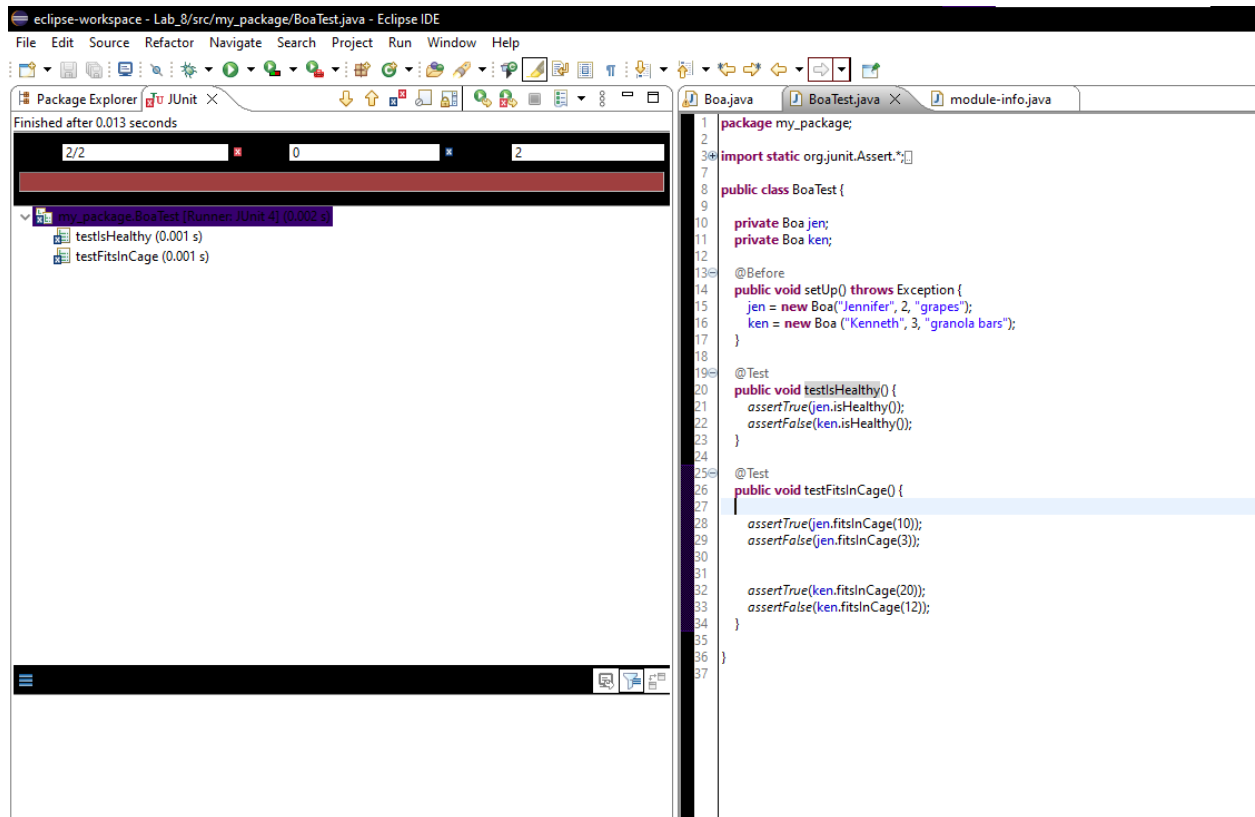Boa.java   BoaTest.java ×   module-info.java

```java
 1    package my_package;
 2
 3⊕  import static org.junit.Assert.*;
 7
 8    public class BoaTest {
 9
10        private Boa jen;
11        private Boa ken;
12
13⊖      @Before
14        public void setUp() throws Exception {
15            jen = new Boa("Jennifer", 2, "grapes");
16            ken = new Boa ("Kenneth", 3, "granola bars");
17        }
18
19⊖      @Test
20        public void testIsHealthy() {
21            assertTrue(jen.isHealthy());
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25⊖      @Test
26        public void testFitsInCage() {
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28            assertTrue(jen.fitsInCage(10));
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32            assertTrue(ken.fitsInCage(20));
33            assertFalse(ken.fitsInCage(12));
34        }
35
36    }
37
```

Output:

Package Explorer | JUnit ✕   ⬇ ⬆ ⬛ ⬜ ⬜   🔄 🔄 ⬛ ⬛ ▾ ⋮ ➖ ⬜   Boa.java | BoaTest.java ✕ | module-info.java

Finished after 0.013 seconds

| 3/3 | ✕ | 0 | ✕ | 3 |

```
▼ my_package.BoaTest [Runner: JUnit 4] (0.003 s)
    testLengthInInches (0.002 s)
    testIsHealthy (0.000 s)
    testFitsInCage (0.001 s)
```

```java
 1  package my_package;
 2
 3  import static org.junit.Assert.*;
 7
 8  public class BoaTest {
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10      private Boa jen;
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13      @Before
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19      @Test
20      public void testIsHealthy() {
21          assertTrue(jen.isHealthy());
22          assertFalse(ken.isHealthy());
23      }
24
25      @Test
26      public void testFitsInCage() {
27
28          assertTrue(jen.fitsInCage(10));
29          assertFalse(jen.fitsInCage(3));
30
31
32          assertTrue(ken.fitsInCage(20));
33          assertFalse(ken.fitsInCage(12));
34      }
35      @Test
36      public void testLengthInInches() {
37          assertEquals(48, jen.lengthInInches());
38          assertEquals(144, ken.lengthInInches());
39      }
40
41  }
42
```

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