

# **IT314 :Software Engineering**



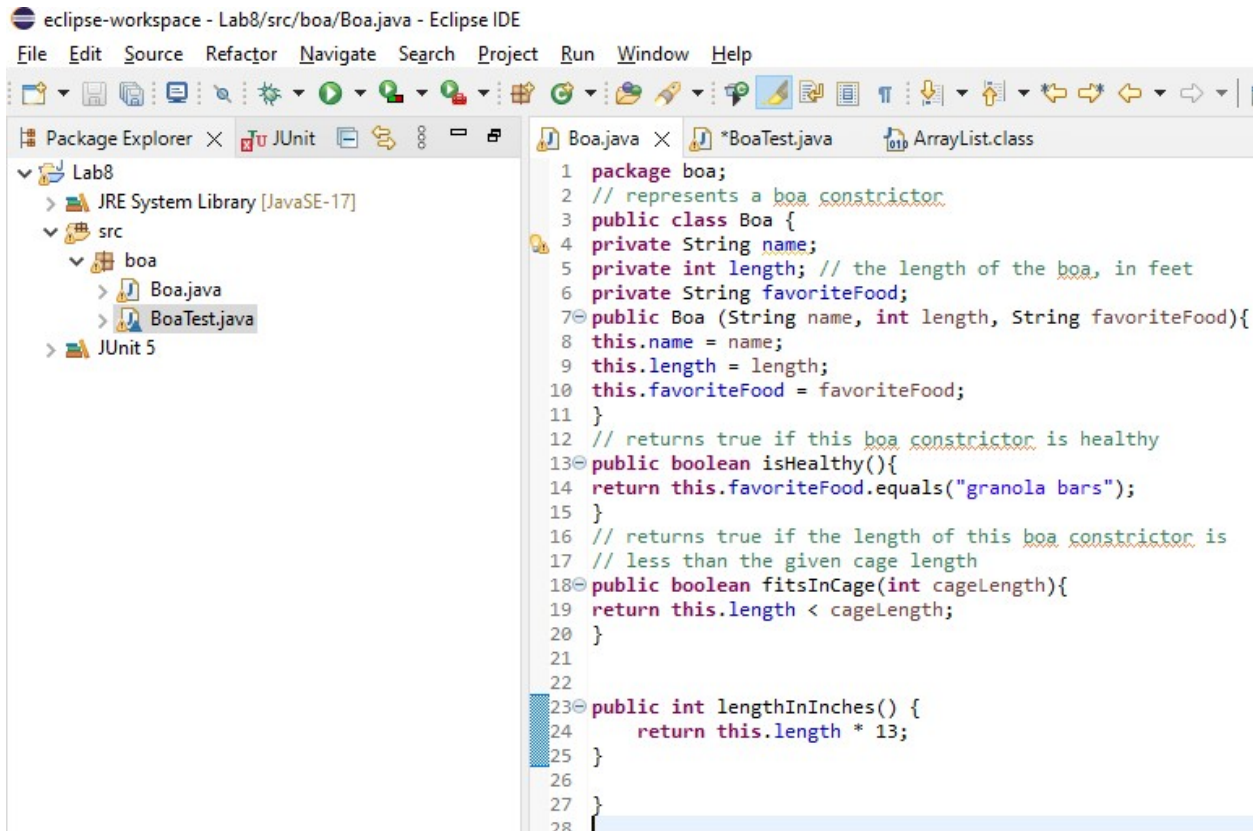
**Lab: 8**

**Date : 21-04-2023**

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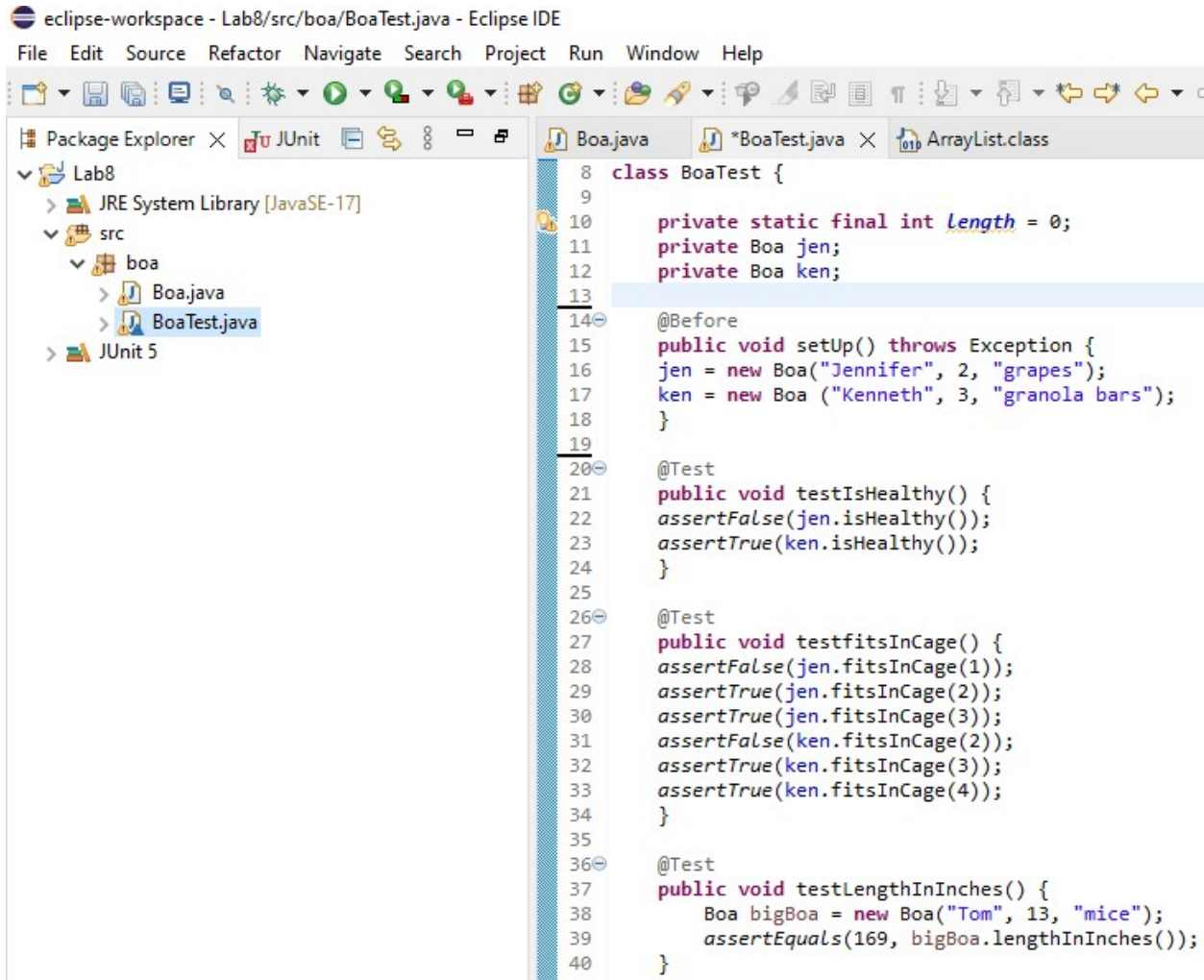
- Create a new Eclipse project, and within the project create a package.
- Create a class for a Boa.

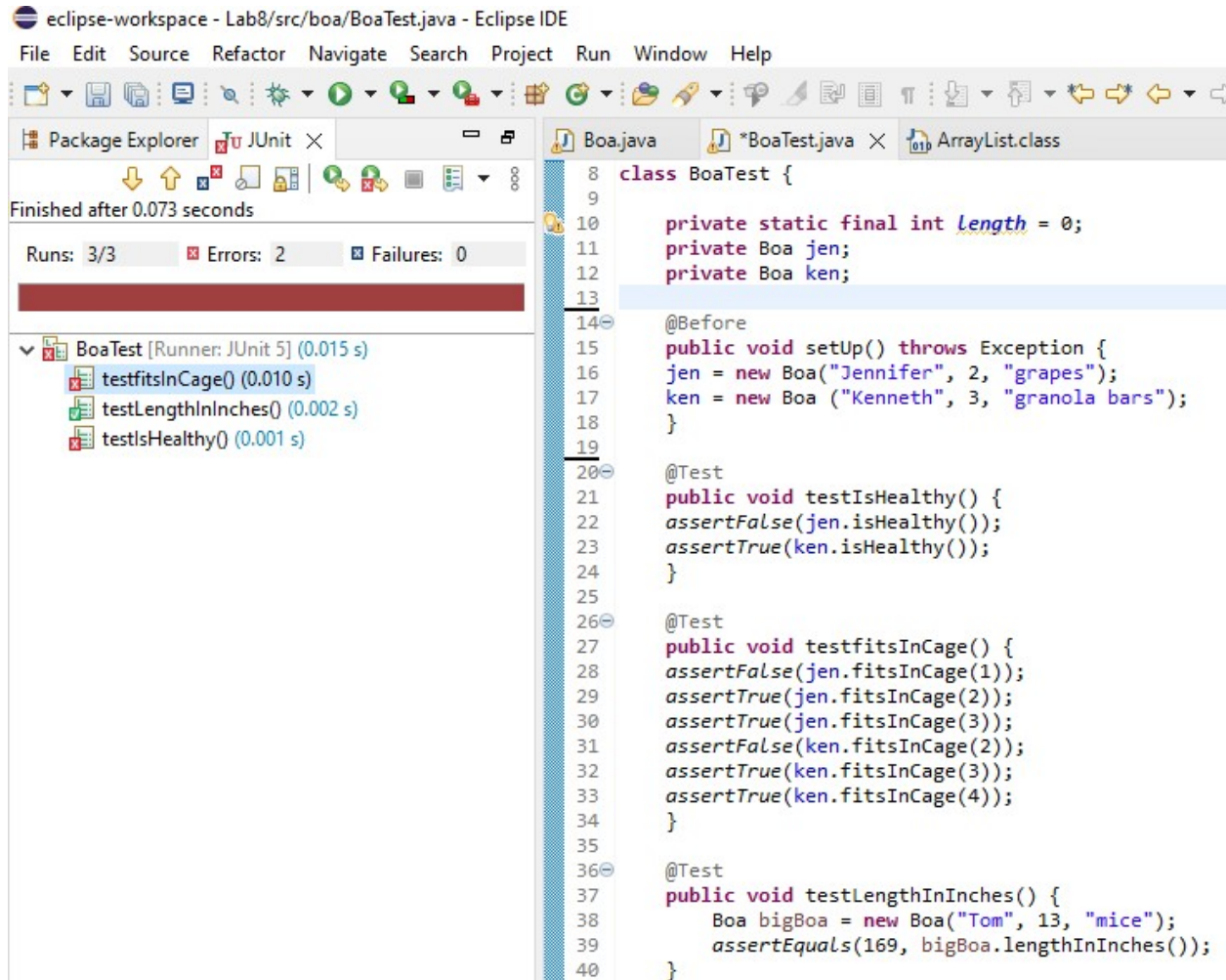


The screenshot shows the Eclipse IDE interface. The title bar indicates the workspace is 'eclipse-workspace - Lab8/src/boa/Boa.java - Eclipse IDE'. The menu bar includes File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, and Help. The toolbar contains various icons for file operations and development. The Package Explorer on the left shows the project structure: 'Lab8' contains 'JRE System Library [JavaSE-17]', 'src' (which contains 'boa' and 'JUnit 5'), and 'boa' (which contains 'Boa.java' and 'BoaTest.java'). The main editor window displays the code for 'BoaTest.java', which includes a package declaration, a comment, a class definition, and several methods: a constructor, 'isHealthy()', 'fitsInCage()', and 'lengthInInches()'.

```
1 package boa;
2 // represents a boa constructor
3 public class Boa {
4     private String name;
5     private int length; // the length of the boa, in feet
6     private String favoriteFood;
7     public Boa (String name, int length, String favoriteFood){
8         this.name = name;
9         this.length = length;
10        this.favoriteFood = favoriteFood;
11    }
12    // returns true if this boa constructor is healthy
13    public boolean isHealthy(){
14        return this.favoriteFood.equals("granola bars");
15    }
16    // returns true if the length of this boa constructor is
17    // less than the given cage length
18    public boolean fitsInCage(int cageLength){
19        return this.length < cageLength;
20    }
21
22
23    public int lengthInInches() {
24        return this.length * 13;
25    }
26
27 }
28 }
```

- **Write unit test case**





**Running Test Cases = 3**

**Failed Test Cases = 2**

- **Modify the methods**

1. **testFitsInCage()**

```
@Test
public void testFitsInCage_1() {

    int cage = 1;
    boolean output = jen.fitsInCage(cage);
    assertEquals(output,false);
}

@Test
public void testFitsInCage_2() {

    int cage = 2;
    boolean output = ken.fitsInCage(cage);
    assertEquals(output,false);
}

@Test
public void testFitsInCage_3() {

    int cage = 10;
    boolean output = ken.fitsInCage(cage);
    assertEquals(output,true);
}

@Test
public void testFitsInCage_4() {

    int cage = 3;
    boolean output = ken.fitsInCage(cage);
    assertEquals(output,false);
}
```

2. **testIsHealthy()**

```
@Test
public void testIsHealthy_1() {
    boolean output = ken.isHealthy();
    assertEquals(output,true);
}

@Test
public void testIsHealthy_2() {
    boolean output = jen.isHealthy();
    assertEquals(output,false);
}
```

- Add a new method to the Boa class that produces length in inches

eclipse-workspace - Lab8/src/boa/Boa.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Package Explorer × JUnit

Lab8

- > JRE System Library [JavaSE-17]
- src
  - boa
    - Boa.java
    - BoaTest.java
  - JUnit 5

Boa.java × \*BoaTest.java ArrayList.class

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