

Software Engineering

Lab 8

Suyash Vyas 202001002

Boa.java:

The screenshot shows an IDE with a Java class named `Boa` and its test results. The class `Boa` is defined in `BoaTest.java` and includes a constructor and several methods. The test results show that the test passed with 100% coverage.

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

Test Results:

Element	Coverage	Covered Instruction...	Missed Instructions	Total Instructions
> JUnit Testing	100.0 %	154	0	154

BoaTest.java

In total 10 test cases 2 for isHealthy, 6 for fitsInCage and 2 for lengthInInches

The screenshot displays an IDE with the following components:

- Package Explorer:** Shows the project structure with 'JUnit' and 'BoaTest.java'.
- JUnit Runner:** Indicates 'Finished after 0.016 seconds', 'Runs: 10/10', 'Errors: 0', and 'Failures: 0'.
- JUnit.BoaTest [Runner: JUnit 4] (0.001 s):** Shows the test execution details.
- BoaTest.java:** Contains the following code:


```

1 package Junit;
2
3 import static org.junit.Assert.*;
4
5 public class BoaTest {
6
7     private Boa jen;
8     private Boa ken;
9
10    @Before
11    public void setUp() throws Exception {
12        jen = new Boa("Jennifer", 2, "grapes");
13        ken = new Boa("Kenneth", 3, "granola bars");
14    }
15
16    @Test
17    public void testIsHealthy_1() {
18        boolean output = jen.isHealthy();
19        assertEquals(output, false);
20    }
21
22    @Test
23    public void testIsHealthy_2() {
24        boolean output = ken.isHealthy();
25        assertEquals(output, true);
26    }
27
28    @Test
29    public void testFitsInCage_1() {
30        boolean output = jen.fitsInCage(5);
31        assertEquals(output, true);
32    }
33
34 }

```
- Failure Trace:** Empty, indicating no failures.
- Problems:** Empty, indicating no errors or warnings.
- Declaration:** Empty.
- Console:** Shows the output of the test run:


```

BoaTest (19-Apr-2023 2:53:08 pm)
> JUnit Testing

```
- Coverage:** A table showing the coverage of the code:

Element	Coverage	Covered Instruction...	Missed Instructions	Total Instructions
> JUnit Testing	100.0 %	154	0	154

