ASSIGNMENT 3

Junit Exercise

Exercise1:

• Create an Employee class with attributes such as id, name, and salary.

• Write JUnit test cases to verify the behavior of the Employee class.

• Use different types of assertions provided by JUnit to validate the attributes and behavior

of the Employee class.

• Ensure that the Employee class methods are working correctly.

Hint:

1. Create Employee Classes

a. public class Employee { private int id; private String name; private double salary;

b. Generate getter and setter

c. public void raiseSalary(double amount) { this.salary += amount; }

2. Create test class

a. public class EmployeeTest { @Test void testEmployeeAttributes() {

i. Employee employee = new Employee(1, "John Doe", 50000.0);

ii. Write assertEquals method for each attribute value

b. void testRaiseSalary() {

i. Employee employee = new Employee(1, "Jane Smith", 60000.0);

ii. Call raiseSalary(int amout)

iii. Write assertEquals method to check the salary values

c. void testEmployeeEquality() {

i. Create Two employee object

ii. Check for that both objects are not same.

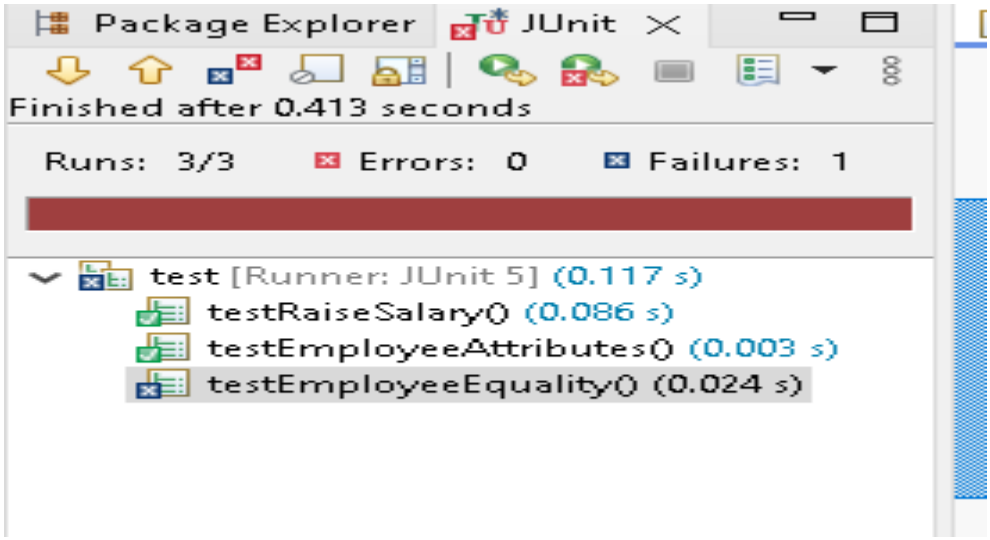
```
import java.util.Objects;

public class Employee {
    private int id;
    private String name;
    private double salary;
    public Employee(int id, String name, double salary) {
        this.id = id;
        this.name = name;
        this.salary = salary;
    }

    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }
```

```
    public double getSalary() {
        return salary;
    }

    public void setSalary(double salary) {
        this.salary = salary;
    }

    public void raiseSalary(double amount) {
        this.salary += amount;
    }

    @Override
    public boolean equals(Object obj) {
        if (this == obj) return true;
        if (obj == null || getClass() != obj.getClass()) return false;
        Employee employee = (Employee) obj;
        return id == employee.id &&
                Double.compare(employee.salary, salary) == 0 &&
                Objects.equals(name, employee.name);
    }
    @Override
    public int hashCode() {
        return Objects.hash(id, name, salary);
    }
}
```

```
import org.junit.jupiter.api.Test;
import static org.junit.jupiter.api.Assertions.*;

public class test {

    @Test
    void testEmployeeAttributes() {
        Employee employee = new Employee(1, "kumar", 50000.0);


        assertEquals(1, employee.getId());
        assertEquals("kumar", employee.getName());

        assertEquals(50000.0, employee.getSalary(), 0.001);
    }

    @Test
    void testRaiseSalary() {
        Employee employee = new Employee(1, "ramar", 60000.0);
        employee.raiseSalary(5000.0);

        assertEquals(65000.0, employee.getSalary(), 0.001);
    }

    @Test
    void testEmployeeEquality() {

        Employee employee1 = new Employee(1, "kumr", 50000.0);
        Employee employee2 = new Employee(1, "ramar", 50000.0);
```

```
        assertEquals(employee1, employee2);
        assertNotSame(employee1, employee2);
    }
}
```

OUTPUT



Exercise2:

• Extend the Employee class with a new method to calculate the yearly bonus based on the

salary.

• Write parameterized JUnit test cases to test the bonus calculation method with different

salary values.

• Use parameterized tests to validate the correctness of the bonus calculation logic for

various scenarios.

Hint:

1. Add the calculateYearlyBonus() method

public double calculateYearlyBonus() { return salary * 0.1; // 10% of the salary as bonus }

2. Write parametized test

public class EmployeeParameterizedTest {

@ParameterizedTest

@ValueSource(doubles = {50000.0, 60000.0, 75000.0})

Void testCalculateYearlyBonus(double salary) {

Employee employee = new Employee(1, "John Doe", salary);

double expectedBonus = salary * 0.1; // 10% of the salary as bonus

assertEquals(expectedBonus, employee.calculateYearlyBonus());

}

```
package excercise2;

public class Employee {
    private int id;
    private String name;
    private double salary;

    public Employee(int id, String name, double salary) {
        this.id = id;
        this.name = name;
        this.salary = salary;
    }



    public void raiseSalary(double amount) {
        this.salary += amount;
    }


    public double calculateYearlyBonus() {
```

```
        return salary * 0.1;
    }
}
package excercise2;
import org.junit.jupiter.params.ParameterizedTest;
import org.junit.jupiter.params.provider.ValueSource;

import static org.junit.jupiter.api.Assertions.assertEquals;

public class parameterizedtest {

    @ParameterizedTest
    @ValueSource(doubles = {50000.0, 60000.0, 75000.0})
    void testCalculateYearlyBonus(double salary) {
        Employee employee = new Employee(1, "kumar", salary);
        double expectedBonus = salary * 0.1;
        assertEquals(expectedBonus, employee.calculateYearlyBonus());
    }
}
```

OUTPUT