Junit testing

**package** com.verizon.day3.calci;

**public** **class** Calculator {

**public** **int** add(**int** n1,**int** n2)

{

**if**(n1<0 || n2<0)

**throw** **new** IllegalArgumentException("cant add negative nos");

**else**

**return** n1+n2;

}

**public** **int** subtarct(**int** n1,**int** n2){

**return** n1-n2;

}

**public** **double** divide(**int** n1,**int** n2)

{

**return** n1/n2;

}

**public** **double** multiply(**int** n1,**int** n2)

{

**return** n1\*n2;

}

}

package com.verizon.day3.calci.tests;

import static org.junit.Assert.\*;

import org.junit.AfterClass;

import org.junit.BeforeClass;

import org.junit.Ignore;

import org.junit.Test;

import com.verizon.day3.calci.Calculator;

public class CalculatorTest {

static Calculator calc;

@BeforeClass

public static void setUpBeforeClass() throws Exception {

calc=new Calculator();

}

@AfterClass

public static void tearDownAfterClass() throws Exception {

calc=null;

}

@Test

public void testAdd() {

int result=calc.add(10,20);

assertEquals(30, result);

}

@Test(expected=java.lang.Exception.class)

public void testNegativeAdd()

{

calc.add(-10, 5);

}

@Ignore

@Test

public void testSubtarct() {

assertEquals(10,calc.subtarct(30,20));

}

@Ignore

@Test

public void testDivide() {

assertEquals(5,calc.divide(50,10),2);

// 2 for precision of decimals in double

}

@Ignore

@Test

public void testMultiply() {

assertEquals(50,calc.multiply(5,10),2);

}

}

Testing employee dao class

package com.verizon.day3employee.dao.test;

import static org.junit.Assert.\*;

import org.junit.AfterClass;

import org.junit.BeforeClass;

import org.junit.Ignore;

import org.junit.Test;

import com.verizon.day2employee.dao.EmployeeDAO;

import com.verizon.day2entities.Employee;

public class EmployeeDAOTest extends EmployeeDAO {

static EmployeeDAO dao;

@BeforeClass

public static void setUpBeforeClass() throws Exception {

dao=new EmployeeDAO();

}

@AfterClass

public static void tearDownAfterClass() throws Exception {

dao=null;

}

@Ignore

@Test

public void testEmployeeDAO() {

fail("Not yet implemented");

}

@Test

public void testAddEmployee() {

Employee e1=new Employee(5,"kabali",5000.0,10);

try{

assertTrue("employee cannnot be inserted",dao.addEmployee(e1));

}catch (Exception e)

{

e.printStackTrace();

}

}

@Ignore

@Test

public void testGetEmployeeDetails() {

fail("Not yet implemented");

}

@Ignore

@Test

public void testGetAllEmployees() {

fail("Not yet implemented");

}

@Ignore

@Test

public void testUpdateEmployeeDetails() {

fail("Not yet implemented");

}

}

Test suite

**package** com.verizon.day3employee.dao.test;

**import** org.junit.runner.RunWith;

**import** org.junit.runners.Suite;

**import** org.junit.runners.Suite.SuiteClasses;

@RunWith(Suite.**class**)

@SuiteClasses({ CalculatorTest.**class**, EmployeeDAOTest.**class** })

**public** **class** AllTests {

}

**Assignment Day 12**

**Duration 90 Min**

**3.  Write a code for solving quadratic equations, given the coefficients’ a, b, c for a standard quadratic equation of type**

The roots would be of type

Please raise exceptions for imaginary values.

Build a test case for the same & raise exceptions for imaginary values.

**package** com.verizon.day3.calci.tests;

**import** java.util.Scanner;

**public** **class** QuadraticEquation {

**public** **double**[] roots(**double** a,**double** b,**double** c) **throws** Exception

{

**double** root1, root2, root,d;

Scanner s = **new** Scanner(System.***in***);

System.***out***.println("Given quadratic equation:ax^2 + bx + c");

System.***out***.print("Enter a:");

a = s.nextInt();

System.***out***.print("Enter b:");

b = s.nextInt();

System.***out***.print("Enter c:");

c = s.nextInt();

System.***out***.println("Given quadratic equation:"+a+"x^2 + "+b+"x + "+c);

d = (b \* b) - (4 \* a \* c);

**if**(d > 0)

{

System.***out***.println("Roots are real and unequal");

root1 = ( - b + Math.*sqrt*(d))/(2\*a);

root2 = (-b - Math.*sqrt*(d))/(2\*a);

System.***out***.println("First root is:"+root1);

System.***out***.println("Second root is:"+root2);

}

**else** **if**(d == 0)

{

System.***out***.println("Roots are real and equal");

root = (-b)/(2\*a);

System.***out***.println("Roots:"+root+root);

}

**else**

{

**throw** **new** Exception("Roots are imaginary");

}

s.close();

**return** **null**;

}

}

package com.verizon.day3.employee.dao.test;

import static org.junit.Assert.\*;

import org.junit.AfterClass;

import org.junit.BeforeClass;

import org.junit.Ignore;

import org.junit.Test;

import com.verizon.day3.calci.Calculator;

import com.verizon.day3.calci.tests.QuadraticEquation;

public class QuadraticEquationTest {

static QuadraticEquation q;

@BeforeClass

public static void setUpBeforeClass() throws Exception {

q = new QuadraticEquation();

}

@AfterClass

public static void tearDownAfterClass() throws Exception {

q = null;

}

@Ignore

@Test

public void testRoots() throws Exception {

double expected[] = { -2.0, -2.0 };

double result[] = q.roots(1.0, 4.0, 4.0);

assertEquals(expected, result);

}

@Test(expected = java.lang.Exception.class)

public void testNegativeAdd() throws Exception {

q.roots(-10.0, 5.0, 5.0);

}

}