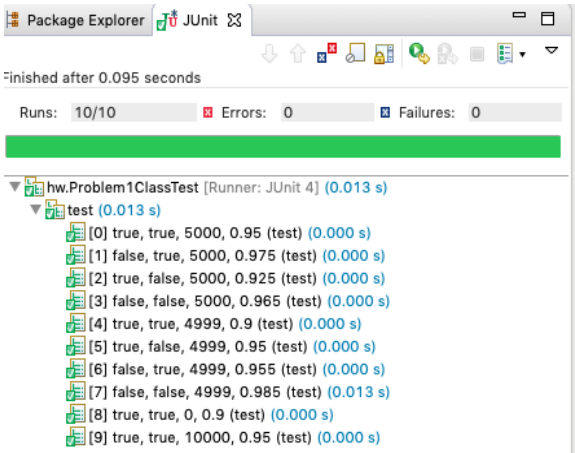
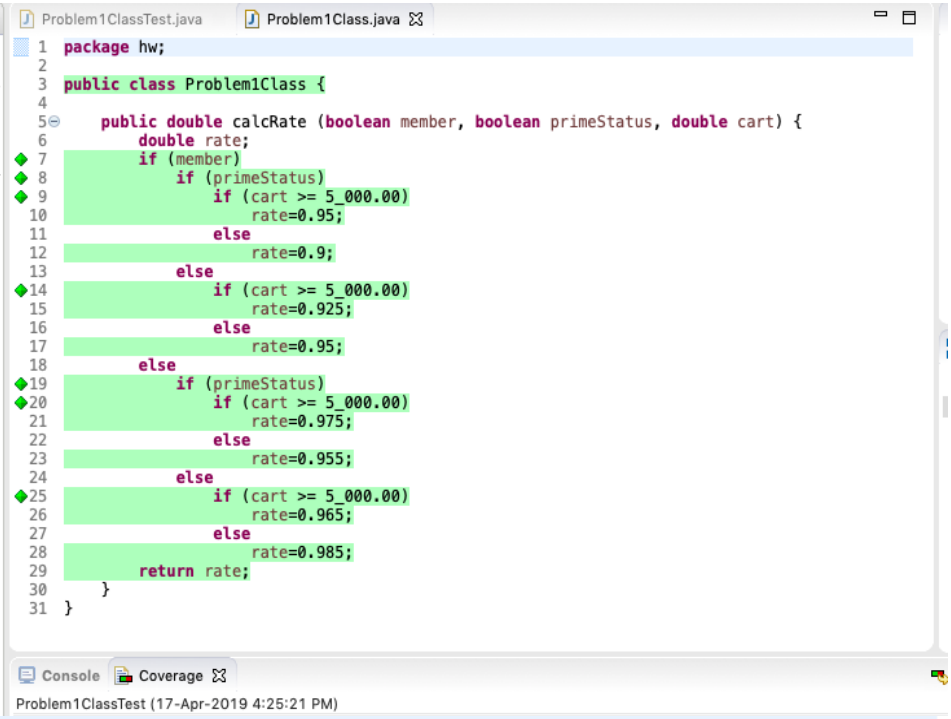
SOFTWARE TESTING
ASSIGNMENT-4

ANSWER NO.1






```
 1  package hw;
 2  import static junitparams.JUnitParamsRunner.$;
 9
10  @RunWith(JUnitParamsRunner.class)
11  public class Problem1ClassTest {
12
13      private Problem1Class shopping;
14
15      @SuppressWarnings("unused")
16      private static final Object[] paramsforshop () {
17          return $(
18  //                  Parameters are: (1,2,3,4,5,6,,8,9,10)
19  //                                  1=member, 2=primeStatus, 3=cart, 4=rate
20  //                  Test case 1
21                      $(true,     true,    5000,    0.950),
22  //                  Test case 2
23                      $(false,    true,    5000,    0.975),
24  //                  Test case 3
25                      $(true,     false,   5000,    0.925),
26  //                  Test case 4
27                      $(false,    false,   5000,    0.965),
28  //                  Test case 5
29                      $(true,     true,    4999,    0.900),
30  //                  Test case 6
31                      $(true,     false,   4999,    0.950),
32  //                  Test case 7
33                      $(false,    true,    4999,    0.955),
34  //                  Test case 8
35                      $(false,    false,   4999,    0.985),
36  //                  Test case 9
37                      $(true,     true,    0,   0.900),
38  //                  Test case 10
39                      $(true,     true,    10000,   0.950)
40          );
41      }
42
43      @Before
44      public void setUp () {
45          shopping = new Problem1Class();
46      }
47
48      @Test
49      @Parameters(method="paramsforshop")
50      public void test(boolean member, boolean primeStatus, double cart, double rate)
51      {
```

Console Coverage
Problem1ClassTest (17-Apr-2019 4:25:21 PM)

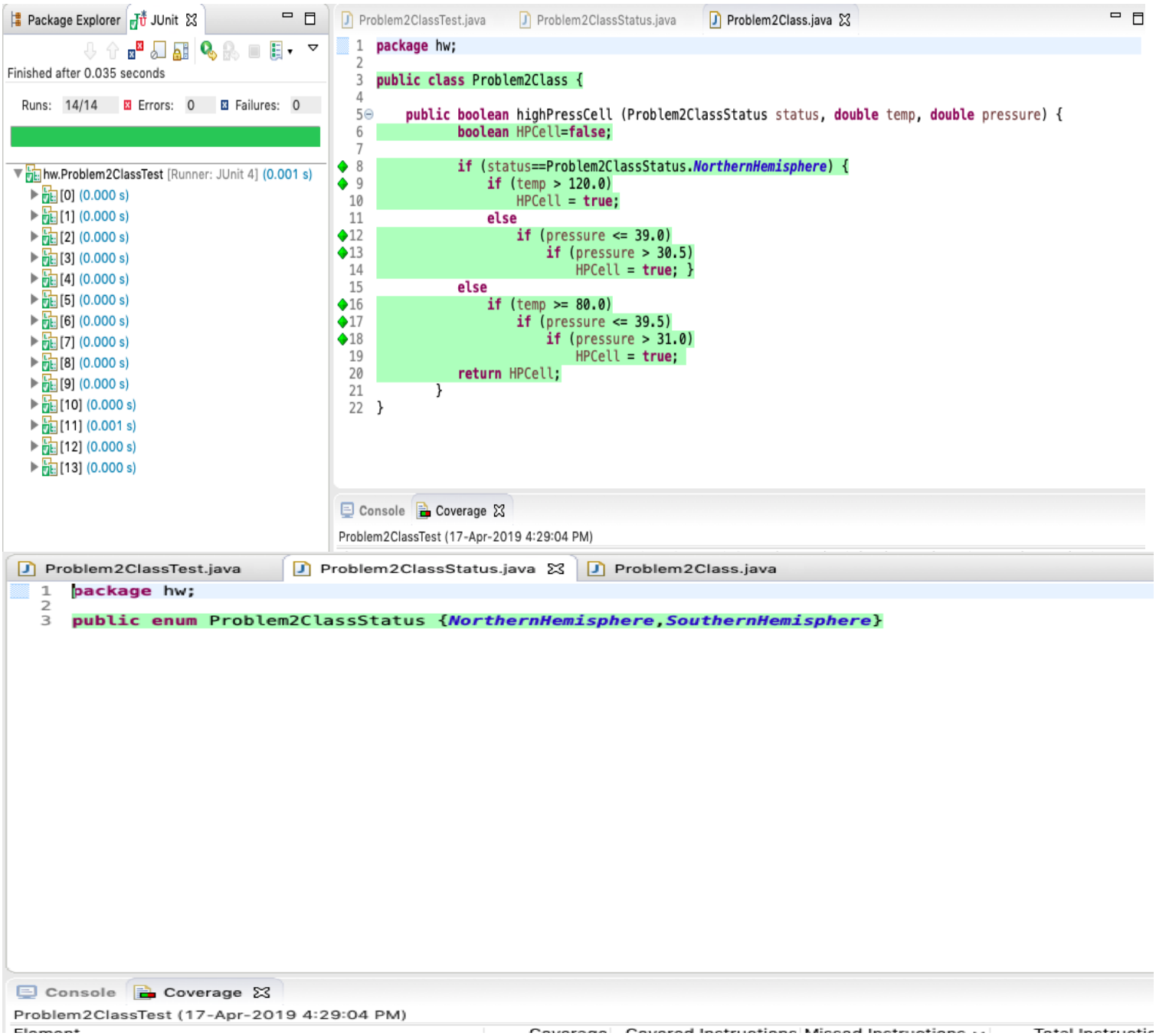
```
52
53          shopping.calcRate(member, primeStatus, cart);
54          assertEquals(rate, shopping.calcRate(member, primeStatus, cart), 0.001);
55      }
56
57  }
```

Console | Coverage

Problem1ClassTest (17-Apr-2019 4:25:21 PM)

Test Case Number	Inputs			Exp Out	Comments
	member	primeStatus	cart	rate	
1	TRUE	TRUE	$5,000.00	0.950	7-8-9-10-29
2	FALSE	TRUE	$5,000.00	0.975	7-19-20-21-29
3	TRUE	FALSE	$5,000.00	0.925	7-8-14-15-29
4	FALSE	FALSE	$5,000.00	0.965	7-19-25-26-29
5	TRUE	TRUE	$4,999.99	0.900	7-8-9-12-29
6	TRUE	FALSE	$4,999.99	0.950	7-8-14-17-29
7	FALSE	TRUE	$4,999.99	0.955	7-19-20-23-29
8	FALSE	FALSE	$4,999.99	0.985	7-19-25-28-29
9	TRUE	TRUE	$0.00	0.900	Extreme range
10	TRUE	TRUE	$10,000.00	0.950	Extreme range

ANSWER NO.2


Package Explorer
JUnit
Finished after 0.035 seconds
Runs: 14/14
Errors: 0
Failures: 0
hw.Problem2ClassTest [Runner: JUnit 4] (0.001 s)
[0] (0.000 s)
[1] (0.000 s)
[2] (0.000 s)
[3] (0.000 s)
[4] (0.000 s)
[5] (0.000 s)
[6] (0.000 s)
[7] (0.000 s)
[8] (0.000 s)
[9] (0.000 s)
[10] (0.000 s)
[11] (0.001 s)
[12] (0.000 s)
[13] (0.000 s)
Problem2ClassTest.java
Problem2ClassStatus.java
Problem2Class.java
1 package hw;
2
3 public class Problem2Class {
4
5 public boolean highPressCell (Problem2ClassStatus status, double temp, double pressure) {
6 boolean HPCell=false;
7
8 if (status==Problem2ClassStatus.NorthernHemisphere) {
9 if (temp > 120.0)
10 HPCell = true;
11 else
12 if (pressure <= 39.0)
13 if (pressure > 30.5)
14 HPCell = true; }
15 else
16 if (temp >= 80.0)
17 if (pressure <= 39.5)
18 if (pressure > 31.0)
19 HPCell = true;
20 return HPCell;
21 }
22 }
Console
Coverage
Problem2ClassTest (17-Apr-2019 4:29:04 PM)
Problem2ClassTest.java
Problem2ClassStatus.java
Problem2Class.java
1 package hw;
2
3 public enum Problem2ClassStatus {NorthernHemisphere,SouthernHemisphere}
Console
Coverage
Problem2ClassTest (17-Apr-2019 4:29:04 PM)

Problem2ClassTest.java | Problem2ClassStatus.java | Problem2Class.java

```
1  package hw;
2
3
4  import static org.junit.Assert.*;
12
13 @RunWith(Parameterized.class)
14 public class Problem2ClassTest{
15
16     private Problem2Class Prob2;
17     private double temp, pressure;
18     private boolean HPCell;
19     private Problem2ClassStatus status;
20
21
22
23     @Before
24     public void setUp() throws Exception {
25         Prob2 = new Problem2Class();
26     }
27
28     @Parameters
29     public static Collection<Object[]> data() {
30         return Arrays.asList(new Object[][] {
31 //          Parameters are: (1,2,3,4,5,6,7,8,9,10,11,12,13,14)
32 //          1=status, 2=temp, 3=pressure, 4=return_output
33 //          Test case 1
34             {Problem2ClassStatus.NorthernHemisphere,        120.1, 30.5,    true},
35
36 //          Test case 2
37             {Problem2ClassStatus.SouthernHemisphere,        80.0, 31.1, true},
38
39 //          Test case 3
40             {Problem2ClassStatus.NorthernHemisphere,        120.0, 30.6,    true},
41
42 //          Test case 4
43             {Problem2ClassStatus.SouthernHemisphere,        79.9, 31.1, false},
44
45 //          Test case 5
46             {Problem2ClassStatus.NorthernHemisphere,    120.0, 39.1,    false},
47
48 //          Test case 6
49             {Problem2ClassStatus.SouthernHemisphere,        80.0, 39.6, false},
50
51 //          Test case 7
52             {Problem2ClassStatus.NorthernHemisphere,        120.0, 30.5,    false},
```

Console | Coverage

Problem2ClassTest (17-Apr-2019 4:29:04 PM)

Problem2ClassTest.java | Problem2ClassStatus.java | Problem2Class.java

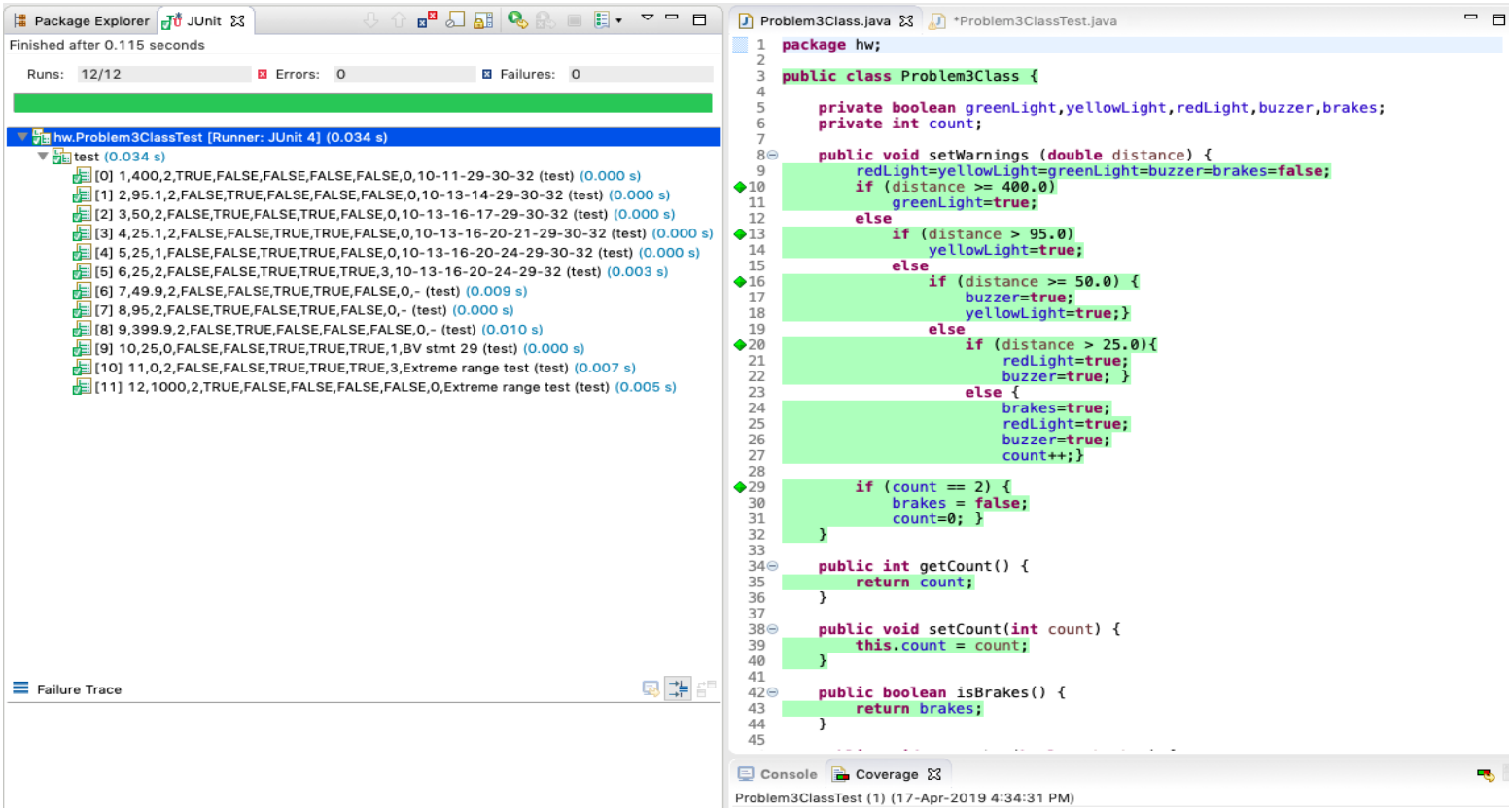
```
48  //          Test case 6
49              {Problem2ClassStatus.SouthernHemisphere,         80.0, 39.6, false},
50
51  //          Test case 7
52              {Problem2ClassStatus.NorthernHemisphere,         120.0, 30.5,    false},
53
54  //          Test case 8
55              {Problem2ClassStatus.SouthernHemisphere,         80.0, 31.0, false},
56
57  //          Test case 9
58              {Problem2ClassStatus.NorthernHemisphere,         120.0, 39.0,    true},
59
60  //          Test case 10
61              {Problem2ClassStatus.SouthernHemisphere,         80.0, 39.5, true},
62
63  //          Test case 11
64              {Problem2ClassStatus.NorthernHemisphere,         0.0, 39.1,  false},
65
66  //          Test case 12
67              {Problem2ClassStatus.NorthernHemisphere,         150.0, 39.1,    true},
68
69  //          Test case 13
70              {Problem2ClassStatus.NorthernHemisphere,    120.0, 0.0, false},
71
72  //          Test case 14
73              {Problem2ClassStatus.NorthernHemisphere,         120.0, 40.0,    false}
74
75
76
77          });
78      }
79
80      public Problem2ClassTest(Problem2ClassStatus status, double temp, double pressure, boolean HPCell) {
81          this.status=status;
82          this.temp=temp;
83          this.pressure=pressure;
84          this.HPCell=HPCell;
85
86      }
87      @Test
88      public void test() {
89          Prob2.highPressCell(status, temp, pressure);
90          assertEquals(HPCell, Prob2.highPressCell(status,temp,pressure) );
91          }
92  }
```

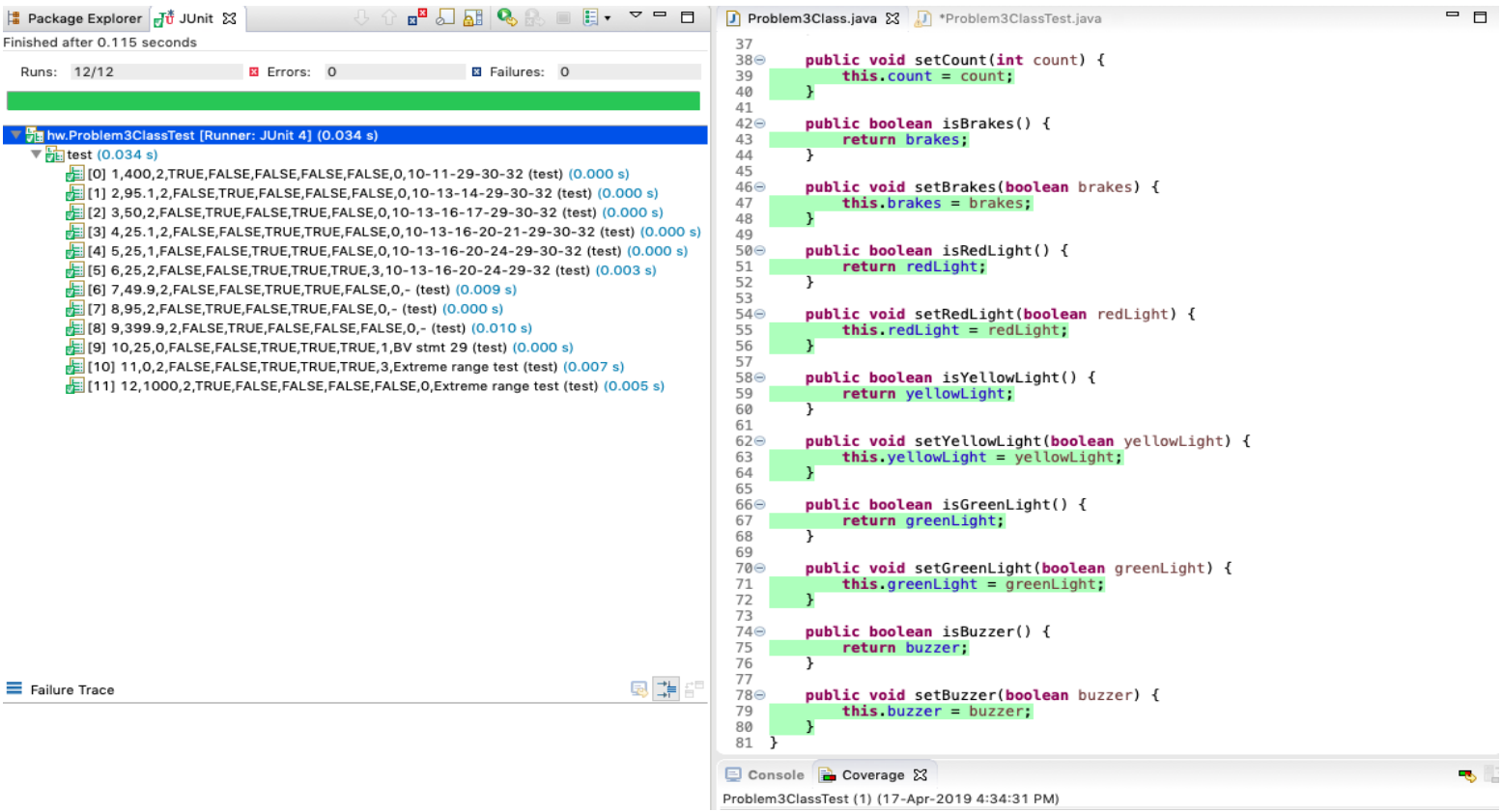
Console | Coverage

Problem2ClassTest (17-Apr-2019 4:29:04 PM)

Test Case Number	Inputs			Exp Out	
	status	temp (F)	pressure (inHg)	return	Comments
1	NorthernHemisphere	120.1	30.5	TRUE	8-9-10-20
2	SouthernHemisphere	80.0	31.1	TRUE	8-16-17-18-19-20
3	NorthernHemisphere	120.0	30.6	TRUE	8-9-12-13-14-20
4	SouthernHemisphere	79.9	31.1	FALSE	8-16-20
5	NorthernHemisphere	120.0	39.1	FALSE	8-9-12-20
6	SouthernHemisphere	80.0	39.6	FALSE	8-16-17-20
7	NorthernHemisphere	120.0	30.5	FALSE	8-9-12-13-20
8	SouthernHemisphere	80.0	31.0	FALSE	8-16-17-18-20
9	NorthernHemisphere	120.0	39.0	TRUE	BV stmt 12
10	SouthernHemisphere	80.0	39.5	TRUE	BV stmt 17
11	NorthernHemisphere	0.0	39.1	FALSE	Extreme range
12	NorthernHemisphere	150.0	39.1	TRUE	Extreme range
13	NorthernHemisphere	120.0	0.0	FALSE	Extreme range
14	NorthernHemisphere	120.0	40.0	FALSE	Extreme range

ANSWER NO.3


Package Explorer
JUnit
Finished after 0.115 seconds
Runs: 12/12
Errors: 0
Failures: 0
hw.Problem3ClassTest [Runner: JUnit 4] (0.034 s)
test (0.034 s)
[0] 1,400,2,TRUE,FALSE,FALSE,FALSE,FALSE,0,10-11-29-30-32 (test) (0.000 s)
[1] 2,95.1,2,FALSE,TRUE,FALSE,FALSE,FALSE,0,10-13-14-29-30-32 (test) (0.000 s)
[2] 3,50,2,FALSE,TRUE,FALSE,TRUE,FALSE,0,10-13-16-17-29-30-32 (test) (0.000 s)
[3] 4,25.1,2,FALSE,FALSE,TRUE,TRUE,FALSE,0,10-13-16-20-21-29-30-32 (test) (0.000 s)
[4] 5,25,1,FALSE,FALSE,TRUE,TRUE,FALSE,0,10-13-16-20-24-29-30-32 (test) (0.000 s)
[5] 6,25,2,FALSE,FALSE,TRUE,TRUE,TRUE,3,10-13-16-20-24-29-32 (test) (0.003 s)
[6] 7,49.9,2,FALSE,FALSE,TRUE,TRUE,FALSE,0,- (test) (0.009 s)
[7] 8,95,2,FALSE,TRUE,FALSE,TRUE,FALSE,0,- (test) (0.000 s)
[8] 9,399.9,2,FALSE,TRUE,FALSE,FALSE,FALSE,0,- (test) (0.010 s)
[9] 10,25,0,FALSE,FALSE,TRUE,TRUE,TRUE,1,BV stmt 29 (test) (0.000 s)
[10] 11,0,2,FALSE,FALSE,TRUE,TRUE,TRUE,3,Extreme range test (test) (0.007 s)
[11] 12,1000,2,TRUE,FALSE,FALSE,FALSE,FALSE,0,Extreme range test (test) (0.005 s)
Failure Trace
Problem3Class.java
*Problem3ClassTest.java
1 package hw;
3 public class Problem3Class {
5 private boolean greenLight,yellowLight,redLight,buzzer,brakes;
6 private int count;
8 public void setWarnings (double distance) {
9 redLight=yellowLight=greenLight=buzzer=brakes=false;
10 if (distance >= 400.0)
11 greenLight=true;
12 else
13 if (distance > 95.0)
14 yellowLight=true;
15 else
16 if (distance >= 50.0) {
17 buzzer=true;
18 yellowLight=true;}
19 else
20 if (distance > 25.0){
21 redLight=true;
22 buzzer=true; }
23 else {
24 brakes=true;
25 redLight=true;
26 buzzer=true;
27 count++;}
29 if (count == 2) {
30 brakes = false;
31 count=0; }
32 }
34 public int getCount() {
35 return count;
36 }
38 public void setCount(int count) {
39 this.count = count;
40 }
42 public boolean isBrakes() {
43 return brakes;
44 }
45
Console
Coverage
Problem3ClassTest (1) (17-Apr-2019 4:34:31 PM)


Package Explorer
JUnit
Finished after 0.115 seconds
Runs: 12/12
Errors: 0
Failures: 0
hw.Problem3ClassTest [Runner: JUnit 4] (0.034 s)
test (0.034 s)
[0] 1,400,2,TRUE,FALSE,FALSE,FALSE,FALSE,0,10-11-29-30-32 (test) (0.000 s)
[1] 2,95.1,2,FALSE,TRUE,FALSE,FALSE,FALSE,0,10-13-14-29-30-32 (test) (0.000 s)
[2] 3,50,2,FALSE,TRUE,FALSE,TRUE,FALSE,0,10-13-16-17-29-30-32 (test) (0.000 s)
[3] 4,25.1,2,FALSE,FALSE,TRUE,TRUE,FALSE,0,10-13-16-20-21-29-30-32 (test) (0.000 s)
[4] 5,25,1,FALSE,FALSE,TRUE,TRUE,FALSE,0,10-13-16-20-24-29-30-32 (test) (0.000 s)
[5] 6,25,2,FALSE,FALSE,TRUE,TRUE,TRUE,3,10-13-16-20-24-29-32 (test) (0.003 s)
[6] 7,49.9,2,FALSE,FALSE,TRUE,TRUE,FALSE,0,- (test) (0.009 s)
[7] 8,95,2,FALSE,TRUE,FALSE,TRUE,FALSE,0,- (test) (0.000 s)
[8] 9,399.9,2,FALSE,TRUE,FALSE,FALSE,FALSE,0,- (test) (0.010 s)
[9] 10,25,0,FALSE,FALSE,TRUE,TRUE,TRUE,1,BV stmt 29 (test) (0.000 s)
[10] 11,0,2,FALSE,FALSE,TRUE,TRUE,TRUE,3,Extreme range test (test) (0.007 s)
[11] 12,1000,2,TRUE,FALSE,FALSE,FALSE,FALSE,0,Extreme range test (test) (0.005 s)
Failure Trace
Problem3Class.java
*Problem3ClassTest.java
37
38 public void setCount(int count) {
39 this.count = count;
40 }
41
42 public boolean isBrakes() {
43 return brakes;
44 }
45
46 public void setBrakes(boolean brakes) {
47 this.brakes = brakes;
48 }
49
50 public boolean isRedLight() {
51 return redLight;
52 }
53
54 public void setRedLight(boolean redLight) {
55 this.redLight = redLight;
56 }
57
58 public boolean isYellowLight() {
59 return yellowLight;
60 }
61
62 public void setYellowLight(boolean yellowLight) {
63 this.yellowLight = yellowLight;
64 }
65
66 public boolean isGreenLight() {
67 return greenLight;
68 }
69
70 public void setGreenLight(boolean greenLight) {
71 this.greenLight = greenLight;
72 }
73
74 public boolean isBuzzer() {
75 return buzzer;
76 }
77
78 public void setBuzzer(boolean buzzer) {
79 this.buzzer = buzzer;
80 }
81 }
Console
Coverage
Problem3ClassTest (1) (17-Apr-2019 4:34:31 PM)

Problem3Class.java | Problem3ClassTest.java

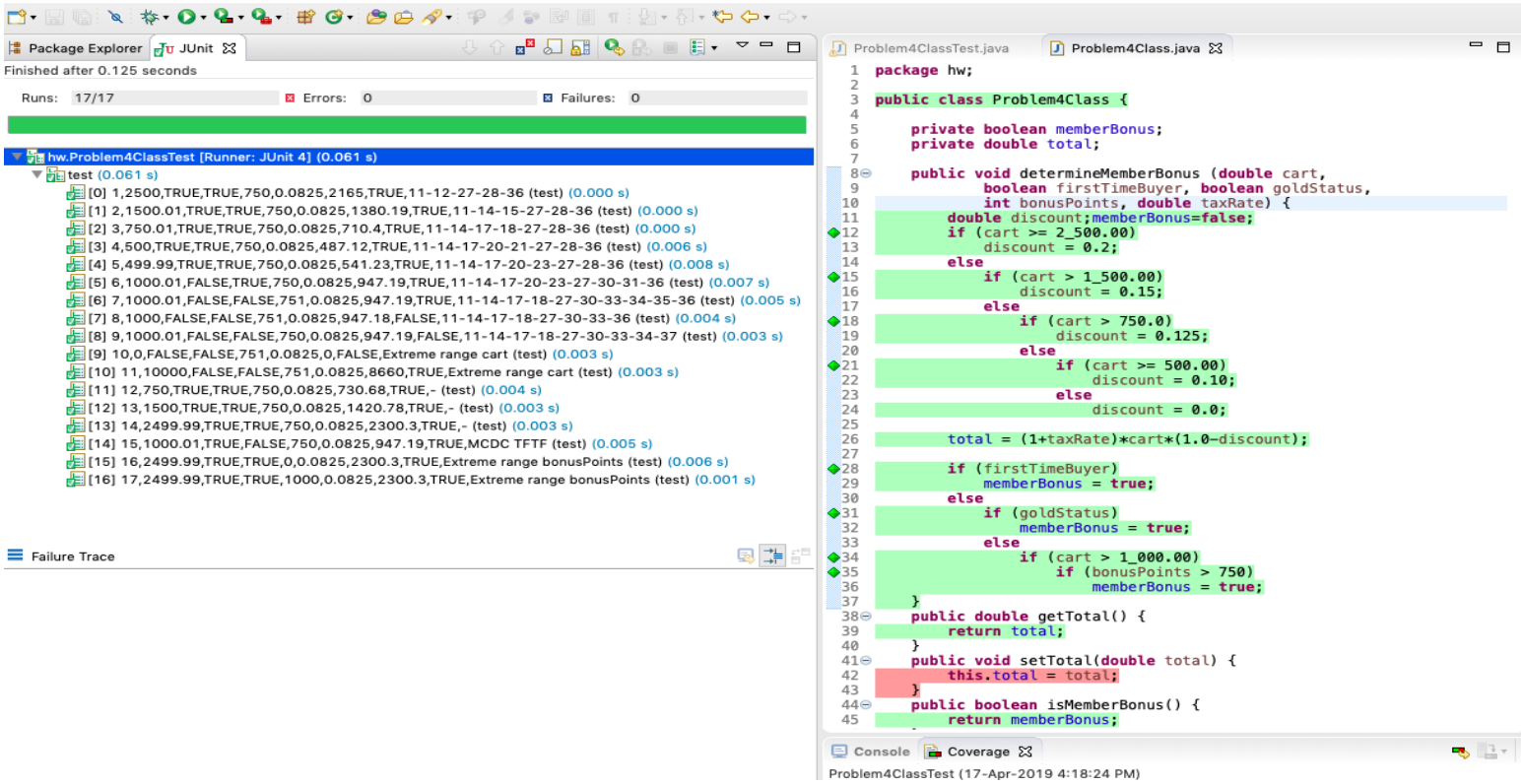
```java
package hw;
import static junitparams.JUnitParamsRunner.$;

@RunWith(JUnitParamsRunner.class)
public class Problem3ClassTest {

    private Problem3Class light;

    @Before
    public void setUp () {
        light = new Problem3Class();
    }

    @Test
    @FileParameters("src/hw/Problem3.csv")
    public void test(int testcaseNumber, double distance, int count,
            boolean greenLight, boolean yellowLight, boolean redLight,
            boolean buzzer, boolean brakes, int count2, String bpNumber) {
        light.setCount(count);
        light.setYellowLight(yellowLight);
        light.setGreenLight(greenLight);
        light.setRedLight(redLight);
        light.setBrakes(brakes);
        light.setBuzzer(buzzer);
        light.setWarnings(distance);
        assertEquals(greenLight,light.isGreenLight());
        assertEquals(yellowLight,light.isYellowLight());
        assertEquals(redLight,light.isRedLight());
        assertEquals(buzzer,light.isBuzzer());
        assertEquals(brakes,light.isBrakes());
        assertEquals(count2,light.getCount());
    }
}
```

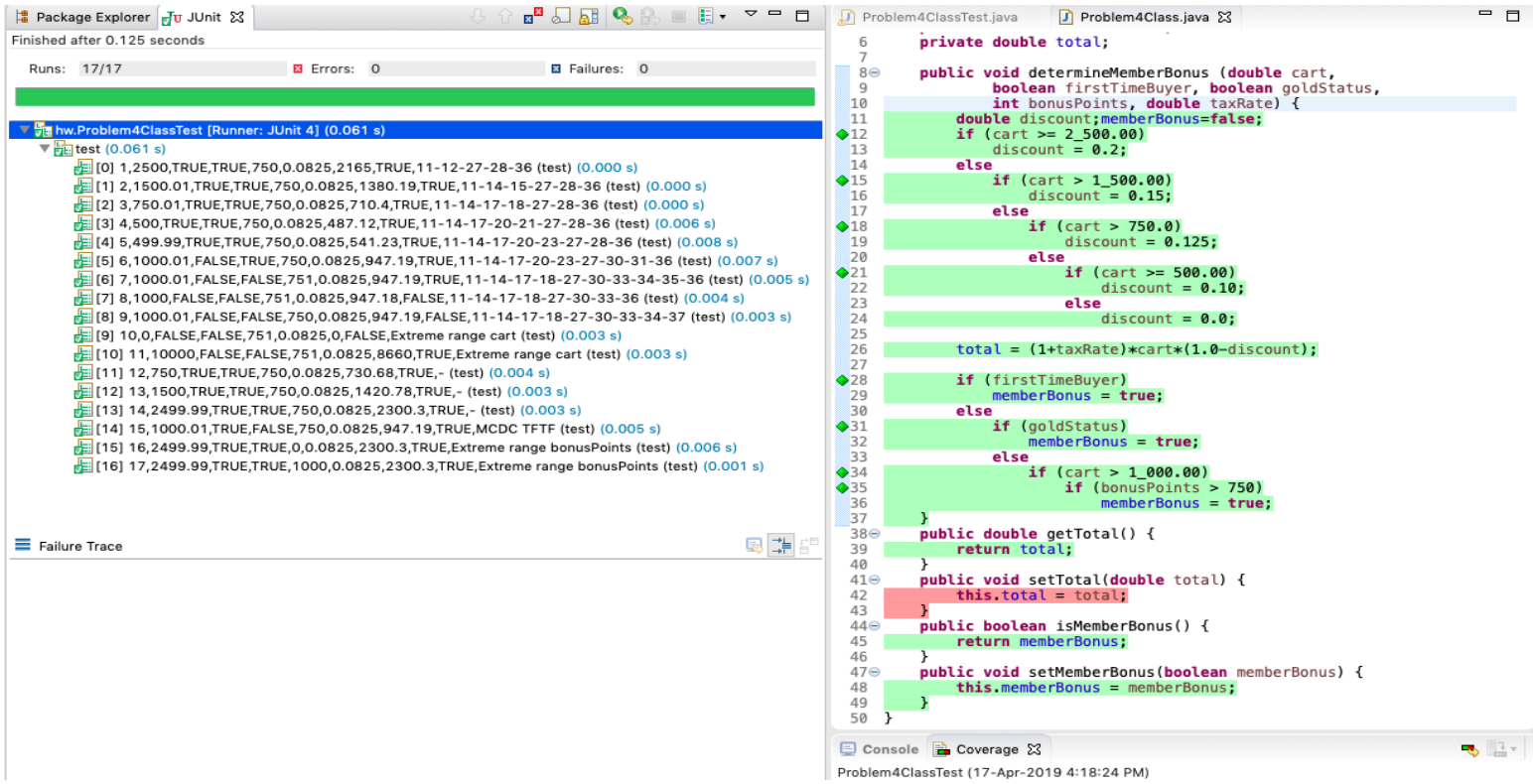
Console | Coverage

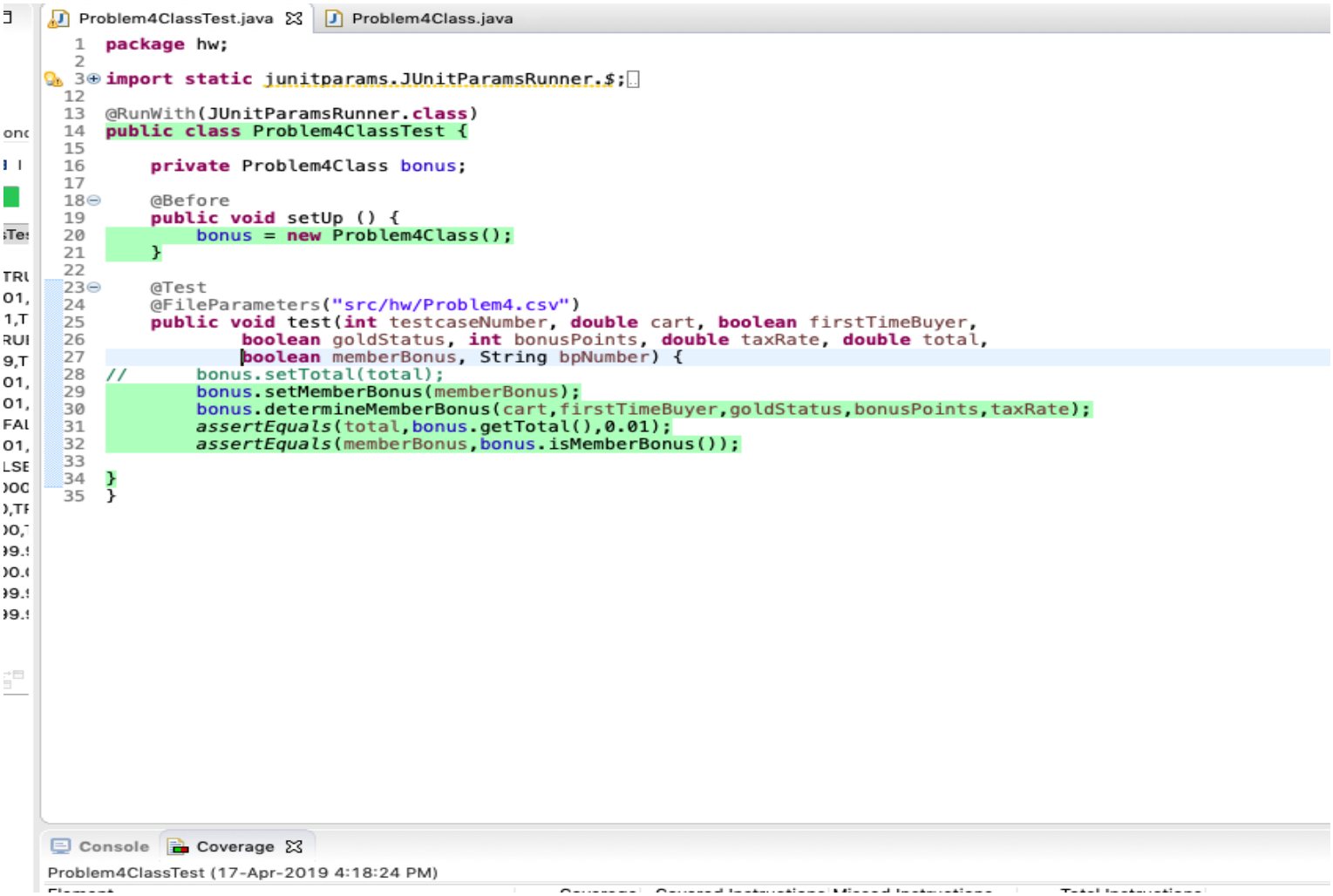
Problem3ClassTest (1) (17-Apr-2019 4:36:51 PM)

Test Case Number	Inputs		Exp Out						Comments
	distance (ft.)	count	greenLight	yellowLight	redLight	buzzer	brakes	count	
1	400.0	2	TRUE	FALSE	FALSE	FALSE	FALSE	0	10-11-29-30-32
2	95.1	2	FALSE	TRUE	FALSE	FALSE	FALSE	0	10-13-14-29-30-32
3	50.0	2	FALSE	TRUE	FALSE	TRUE	FALSE	0	10-13-16-17-29-30-32
4	25.1	2	FALSE	FALSE	TRUE	TRUE	FALSE	0	10-13-16-20-21-29-30-32
5	25.0	1	FALSE	FALSE	TRUE	TRUE	FALSE	0	10-13-16-20-24-29-30-32
6	25.0	2	FALSE	FALSE	TRUE	TRUE	TRUE	3	10-13-16-20-24-29-32
7	49.9	2	FALSE	FALSE	TRUE	TRUE	FALSE	0	-
8	95.0	2	FALSE	TRUE	FALSE	TRUE	FALSE	0	-
9	399.9	2	FALSE	TRUE	FALSE	FALSE	FALSE	0	-
10	25.0	0	FALSE	FALSE	TRUE	TRUE	TRUE	1	BV stmt 29
11	0.0	2	FALSE	FALSE	TRUE	TRUE	TRUE	3	Extreme range test
12	1,000.0	2	TRUE	FALSE	FALSE	FALSE	FALSE	0	Extreme range test

ANSWER NO.4


Package Explorer
JUnit
Finished after 0.125 seconds
Runs: 17/17
Errors: 0
Failures: 0
hw.Problem4ClassTest [Runner: JUnit 4] (0.061 s)
test (0.061 s)
[0] 1,2500,TRUE,TRUE,750,0.0825,2165,TRUE,11-12-27-28-36 (test) (0.000 s)
[1] 2,1500.01,TRUE,TRUE,750,0.0825,1380.19,TRUE,11-14-15-27-28-36 (test) (0.000 s)
[2] 3,750.01,TRUE,TRUE,750,0.0825,710.4,TRUE,11-14-17-18-27-28-36 (test) (0.000 s)
[3] 4,500,TRUE,TRUE,750,0.0825,487.12,TRUE,11-14-17-20-21-27-28-36 (test) (0.006 s)
[4] 5,499.99,TRUE,TRUE,750,0.0825,541.23,TRUE,11-14-17-20-23-27-28-36 (test) (0.008 s)
[5] 6,1000.01,FALSE,TRUE,750,0.0825,947.19,TRUE,11-14-17-20-23-27-30-31-36 (test) (0.007 s)
[6] 7,1000.01,FALSE,FALSE,751,0.0825,947.19,TRUE,11-14-17-18-27-30-33-34-35-36 (test) (0.005 s)
[7] 8,1000,FALSE,FALSE,751,0.0825,947.18,FALSE,11-14-17-18-27-30-33-36 (test) (0.004 s)
[8] 9,1000.01,FALSE,FALSE,750,0.0825,947.19,FALSE,11-14-17-18-27-30-33-34-37 (test) (0.003 s)
[9] 10,0,FALSE,FALSE,751,0.0825,0,FALSE,Extreme range cart (test) (0.003 s)
[10] 11,10000,FALSE,FALSE,751,0.0825,8660,TRUE,Extreme range cart (test) (0.003 s)
[11] 12,750,TRUE,TRUE,750,0.0825,730.68,TRUE,- (test) (0.004 s)
[12] 13,1500,TRUE,TRUE,750,0.0825,1420.78,TRUE,- (test) (0.003 s)
[13] 14,2499.99,TRUE,TRUE,750,0.0825,2300.3,TRUE,- (test) (0.003 s)
[14] 15,1000.01,TRUE,FALSE,750,0.0825,947.19,TRUE,MCDC TFTF (test) (0.005 s)
[15] 16,2499.99,TRUE,TRUE,0,0.0825,2300.3,TRUE,Extreme range bonusPoints (test) (0.006 s)
[16] 17,2499.99,TRUE,TRUE,1000,0.0825,2300.3,TRUE,Extreme range bonusPoints (test) (0.001 s)
Failure Trace
Problem4ClassTest.java
Problem4Class.java
1 package hw;
2
3 public class Problem4Class {
4
5 private boolean memberBonus;
6 private double total;
7
8 public void determineMemberBonus (double cart,
9 boolean firstTimeBuyer, boolean goldStatus,
10 int bonusPoints, double taxRate) {
11 double discount;memberBonus=false;
12 if (cart >= 2_500.00)
13 discount = 0.2;
14 else
15 if (cart > 1_500.00)
16 discount = 0.15;
17 else
18 if (cart > 750.0)
19 discount = 0.125;
20 else
21 if (cart >= 500.00)
22 discount = 0.10;
23 else
24 discount = 0.0;
25
26 total = (1+taxRate)*cart*(1.0-discount);
27
28 if (firstTimeBuyer)
29 memberBonus = true;
30 else
31 if (goldStatus)
32 memberBonus = true;
33 else
34 if (cart > 1_000.00)
35 if (bonusPoints > 750)
36 memberBonus = true;
37 }
38 public double getTotal() {
39 return total;
40 }
41 public void setTotal(double total) {
42 this.total = total;
43 }
44 public boolean isMemberBonus() {
45 return memberBonus;
Console
Coverage
Problem4ClassTest (17-Apr-2019 4:18:24 PM)

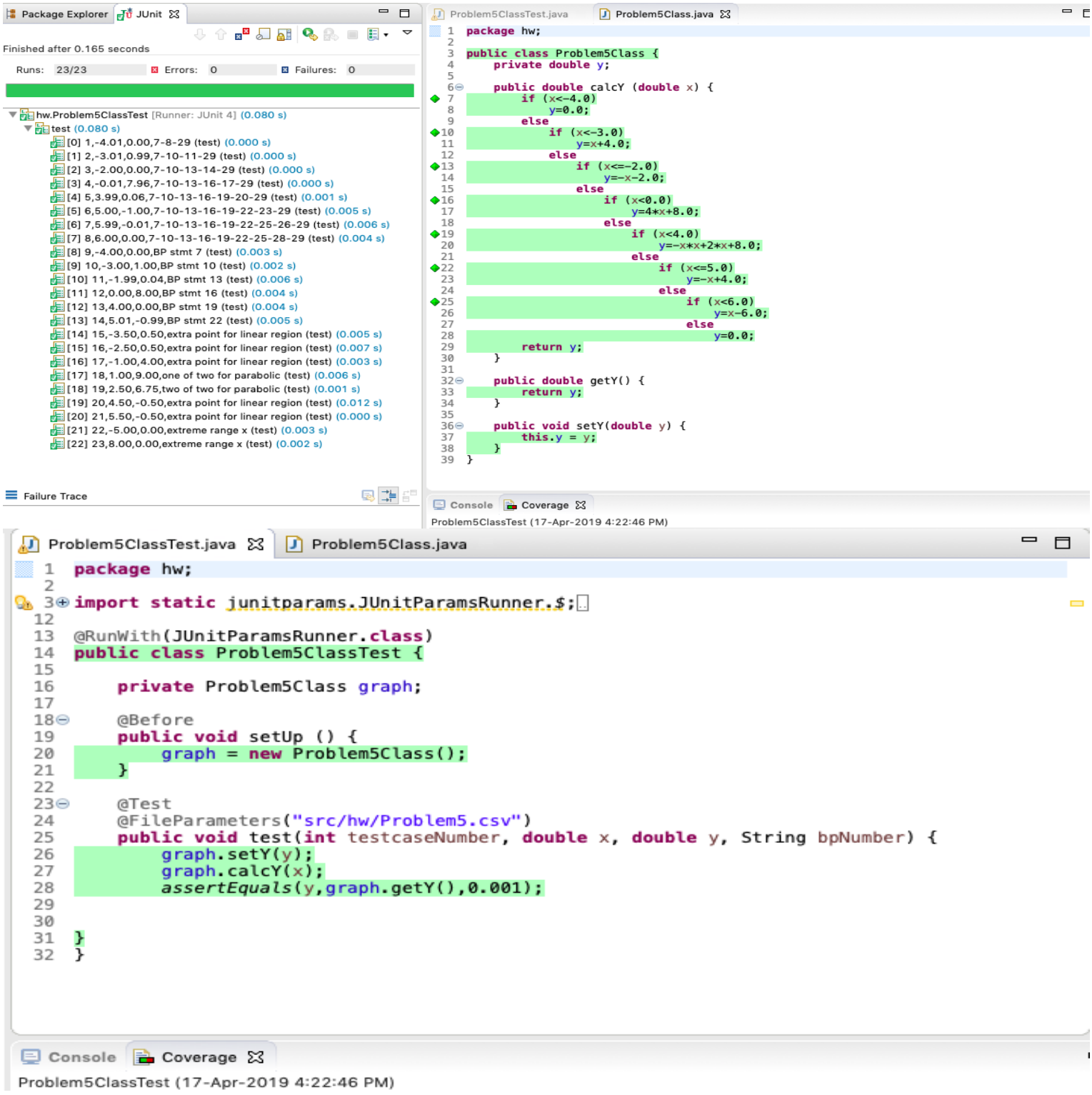

Package Explorer
JUnit
Finished after 0.125 seconds
Runs: 17/17
Errors: 0
Failures: 0
hw.Problem4ClassTest [Runner: JUnit 4] (0.061 s)
test (0.061 s)
[0] 1,2500,TRUE,TRUE,750,0.0825,2165,TRUE,11-12-27-28-36 (test) (0.000 s)
[1] 2,1500.01,TRUE,TRUE,750,0.0825,1380.19,TRUE,11-14-15-27-28-36 (test) (0.000 s)
[2] 3,750.01,TRUE,TRUE,750,0.0825,710.4,TRUE,11-14-17-18-27-28-36 (test) (0.000 s)
[3] 4,500,TRUE,TRUE,750,0.0825,487.12,TRUE,11-14-17-20-21-27-28-36 (test) (0.006 s)
[4] 5,499.99,TRUE,TRUE,750,0.0825,541.23,TRUE,11-14-17-20-23-27-28-36 (test) (0.008 s)
[5] 6,1000.01,FALSE,TRUE,750,0.0825,947.19,TRUE,11-14-17-20-23-27-30-31-36 (test) (0.007 s)
[6] 7,1000.01,FALSE,FALSE,751,0.0825,947.19,TRUE,11-14-17-18-27-30-33-34-35-36 (test) (0.005 s)
[7] 8,1000,FALSE,FALSE,751,0.0825,947.18,FALSE,11-14-17-18-27-30-33-36 (test) (0.004 s)
[8] 9,1000.01,FALSE,FALSE,750,0.0825,947.19,FALSE,11-14-17-18-27-30-33-34-37 (test) (0.003 s)
[9] 10,0,FALSE,FALSE,751,0.0825,0,FALSE,Extreme range cart (test) (0.003 s)
[10] 11,10000,FALSE,FALSE,751,0.0825,8660,TRUE,Extreme range cart (test) (0.003 s)
[11] 12,750,TRUE,TRUE,750,0.0825,730.68,TRUE,- (test) (0.004 s)
[12] 13,1500,TRUE,TRUE,750,0.0825,1420.78,TRUE,- (test) (0.003 s)
[13] 14,2499.99,TRUE,TRUE,750,0.0825,2300.3,TRUE,- (test) (0.003 s)
[14] 15,1000.01,TRUE,FALSE,750,0.0825,947.19,TRUE,MCDC TFTF (test) (0.005 s)
[15] 16,2499.99,TRUE,TRUE,0,0.0825,2300.3,TRUE,Extreme range bonusPoints (test) (0.006 s)
[16] 17,2499.99,TRUE,TRUE,1000,0.0825,2300.3,TRUE,Extreme range bonusPoints (test) (0.001 s)
Failure Trace
Problem4ClassTest.java
Problem4Class.java
6 private double total;
7
8 public void determineMemberBonus (double cart,
9 boolean firstTimeBuyer, boolean goldStatus,
10 int bonusPoints, double taxRate) {
11 double discount;memberBonus=false;
12 if (cart >= 2_500.00)
13 discount = 0.2;
14 else
15 if (cart > 1_500.00)
16 discount = 0.15;
17 else
18 if (cart > 750.0)
19 discount = 0.125;
20 else
21 if (cart >= 500.00)
22 discount = 0.10;
23 else
24 discount = 0.0;
25
26 total = (1+taxRate)*cart*(1.0-discount);
27
28 if (firstTimeBuyer)
29 memberBonus = true;
30 else
31 if (goldStatus)
32 memberBonus = true;
33 else
34 if (cart > 1_000.00)
35 if (bonusPoints > 750)
36 memberBonus = true;
37 }
38 public double getTotal() {
39 return total;
40 }
41 public void setTotal(double total) {
42 this.total = total;
43 }
44 public boolean isMemberBonus() {
45 return memberBonus;
46 }
47 public void setMemberBonus(boolean memberBonus) {
48 this.memberBonus = memberBonus;
49 }
50 }
Console
Coverage
Problem4ClassTest (17-Apr-2019 4:18:24 PM)



```
Problem4ClassTest.java   Problem4Class.java

 1  package hw;
 2
 3  import static junitparams.JUnitParamsRunner.$;
12
13  @RunWith(JUnitParamsRunner.class)
14  public class Problem4ClassTest {
15
16      private Problem4Class bonus;
17
18      @Before
19      public void setUp () {
20          bonus = new Problem4Class();
21      }
22
23      @Test
24      @FileParameters("src/hw/Problem4.csv")
25      public void test(int testcaseNumber, double cart, boolean firstTimeBuyer,
26              boolean goldStatus, int bonusPoints, double taxRate, double total,
27              boolean memberBonus, String bpNumber) {
28  //      bonus.setTotal(total);
29          bonus.setMemberBonus(memberBonus);
30          bonus.determineMemberBonus(cart,firstTimeBuyer,goldStatus,bonusPoints,taxRate);
31          assertEquals(total,bonus.getTotal(),0.01);
32          assertEquals(memberBonus,bonus.isMemberBonus());
33
34  }
35  }

Console   Coverage
Problem4ClassTest (17-Apr-2019 4:18:24 PM)
```

Test Case Number	Inputs					Exp Out		Comments
	cart	firstTimeBuyer	goldStatus	bonusPoints	taxRate	total	memberBonus	
1	$2,500.00	TRUE	TRUE	750	0.0825	$2,165.00	TRUE	11-12-27-28-36
2	$1,500.01	TRUE	TRUE	750	0.0825	$1,380.19	TRUE	11-14-15-27-28-36
3	$750.01	TRUE	TRUE	750	0.0825	$710.40	TRUE	11-14-17-18-27-28-36
4	$500.00	TRUE	TRUE	750	0.0825	$487.12	TRUE	11-14-17-20-21-27-28-36
5	$499.99	TRUE	TRUE	750	0.0825	$541.23	TRUE	11-14-17-20-23-27-28-36
6	$1,000.01	FALSE	TRUE	750	0.0825	$947.19	TRUE	11-14-17-20-23-27-30-31-36
7	$1,000.01	FALSE	FALSE	751	0.0825	$947.19	TRUE	11-14-17-18-27-30-33-34-35-36
8	$1,000.00	FALSE	FALSE	751	0.0825	$947.18	FALSE	11-14-17-18-27-30-33-36
9	$1,000.01	FALSE	FALSE	750	0.0825	$947.19	FALSE	11-14-17-18-27-30-33-34-37
10	$0.00	FALSE	FALSE	751	0.0825	$0.00	FALSE	Extreme range cart
11	$10,000.00	FALSE	FALSE	751	0.0825	$8,660.00	TRUE	Extreme range cart
12	$750.00	TRUE	TRUE	750	0.0825	$730.68	TRUE	-
13	$1,500.00	TRUE	TRUE	750	0.0825	$1,420.78	TRUE	-
14	$2,499.99	TRUE	TRUE	750	0.0825	$2,300.30	TRUE	-
15	$1,000.01	TRUE	FALSE	750	0.0825	$947.19	TRUE	MCDC TFTF
16	$2,499.99	TRUE	TRUE	0	0.0825	$2,300.30	TRUE	Extreme range bonusPoints
17	$2,499.99	TRUE	TRUE	1,000	0.0825	$2,300.30	TRUE	Extreme range bonusPoints

ANSWER NO.5


Package Explorer
JUnit
Finished after 0.165 seconds
Runs: 23/23
Errors: 0
Failures: 0
hw.Problem5ClassTest [Runner: JUnit 4] (0.080 s)
test (0.080 s)
[0] 1,-4.01,0.00,7-8-29 (test) (0.000 s)
[1] 2,-3.01,0.99,7-10-11-29 (test) (0.000 s)
[2] 3,-2.00,0.00,7-10-13-14-29 (test) (0.000 s)
[3] 4,-0.01,7.96,7-10-13-16-17-29 (test) (0.000 s)
[4] 5,3.99,0.06,7-10-13-16-19-20-29 (test) (0.001 s)
[5] 6,5.00,-1.00,7-10-13-16-19-22-23-29 (test) (0.005 s)
[6] 7,5.99,-0.01,7-10-13-16-19-22-25-26-29 (test) (0.006 s)
[7] 8,6.00,0.00,7-10-13-16-19-22-25-28-29 (test) (0.004 s)
[8] 9,-4.00,0.00,BP stmt 7 (test) (0.003 s)
[9] 10,-3.00,1.00,BP stmt 10 (test) (0.002 s)
[10] 11,-1.99,0.04,BP stmt 13 (test) (0.006 s)
[11] 12,0.00,8.00,BP stmt 16 (test) (0.004 s)
[12] 13,4.00,0.00,BP stmt 19 (test) (0.004 s)
[13] 14,5.01,-0.99,BP stmt 22 (test) (0.005 s)
[14] 15,-3.50,0.50,extra point for linear region (test) (0.005 s)
[15] 16,-2.50,0.50,extra point for linear region (test) (0.007 s)
[16] 17,-1.00,4.00,extra point for linear region (test) (0.003 s)
[17] 18,1.00,9.00,one of two for parabolic (test) (0.006 s)
[18] 19,2.50,6.75,two of two for parabolic (test) (0.001 s)
[19] 20,4.50,-0.50,extra point for linear region (test) (0.012 s)
[20] 21,5.50,-0.50,extra point for linear region (test) (0.000 s)
[21] 22,-5.00,0.00,extreme range x (test) (0.003 s)
[22] 23,8.00,0.00,extreme range x (test) (0.002 s)
Failure Trace
Problem5ClassTest.java
Problem5Class.java
1 package hw;
2
3 public class Problem5Class {
4 private double y;
5
6 public double calcY (double x) {
7 if (x<-4.0)
8 y=0.0;
9 else
10 if (x<-3.0)
11 y=x+4.0;
12 else
13 if (x<=-2.0)
14 y=-x-2.0;
15 else
16 if (x<0.0)
17 y=4*x+8.0;
18 else
19 if (x<4.0)
20 y=-x*x+2*x+8.0;
21 else
22 if (x<=5.0)
23 y=-x+4.0;
24 else
25 if (x<6.0)
26 y=x-6.0;
27 else
28 y=0.0;
29 return y;
30 }
31
32 public double getY() {
33 return y;
34 }
35
36 public void setY(double y) {
37 this.y = y;
38 }
39 }
Console
Coverage
Problem5ClassTest (17-Apr-2019 4:22:46 PM)

Problem5ClassTest.java
Problem5Class.java
1 package hw;
2
3 import static junitparams.JUnitParamsRunner.$;
12
13 @RunWith(JUnitParamsRunner.class)
14 public class Problem5ClassTest {
15
16 private Problem5Class graph;
17
18 @Before
19 public void setUp () {
20 graph = new Problem5Class();
21 }
22
23 @Test
24 @FileParameters("src/hw/Problem5.csv")
25 public void test(int testcaseNumber, double x, double y, String bpNumber) {
26 graph.setY(y);
27 graph.calcY(x);
28 assertEquals(y,graph.getY(),0.001);
29
30
31 }
32 }
Console
Coverage
Problem5ClassTest (17-Apr-2019 4:22:46 PM)

Test Case Number	Inputs x	Exp Out y	Basis Path Tested
1	-4.01	0.00	7-8-29
2	-3.01	0.99	7-10-11-29
3	-2.00	0.00	7-10-13-14-29
4	-0.01	7.96	7-10-13-16-17-29
5	3.99	0.06	7-10-13-16-19-20-29
6	5.00	-1.00	7-10-13-16-19-22-23-29
7	5.99	-0.01	7-10-13-16-19-22-25-26-29
8	6.00	0.00	7-10-13-16-19-22-25-28-29
9	-4.00	0.00	BP stmt 7
10	-3.00	1.00	BP stmt 10
11	-1.99	0.04	BP stmt 13
12	0.00	8.00	BP stmt 16
13	4.00	0.00	BP stmt 19
14	5.01	-0.99	BP stmt 22
15	-3.50	0.50	extra point for linear region
16	-2.50	0.50	extra point for linear region
17	-1.00	4.00	extra point for linear region
18	1.00	9.00	one of two for parabolic
19	2.50	6.75	two of two for parabolic
20	4.50	-0.50	extra point for linear region
21	5.50	-0.50	extra point for linear region
22	-5.00	0.00	extreme range x
23	8.00	0.00	extreme range x