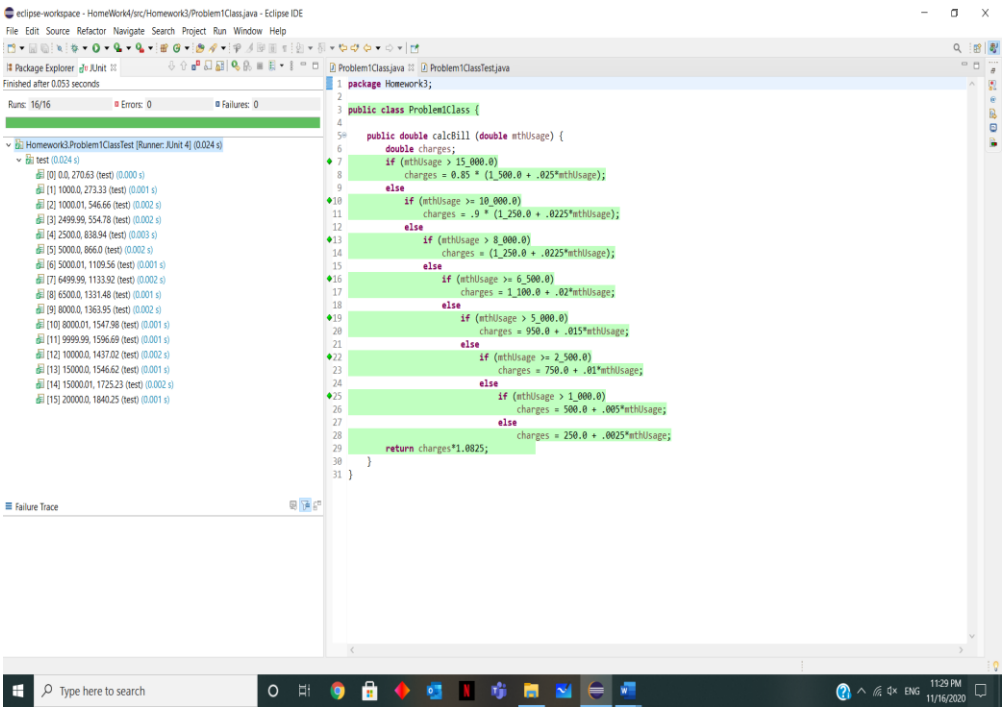
HomeWork4:

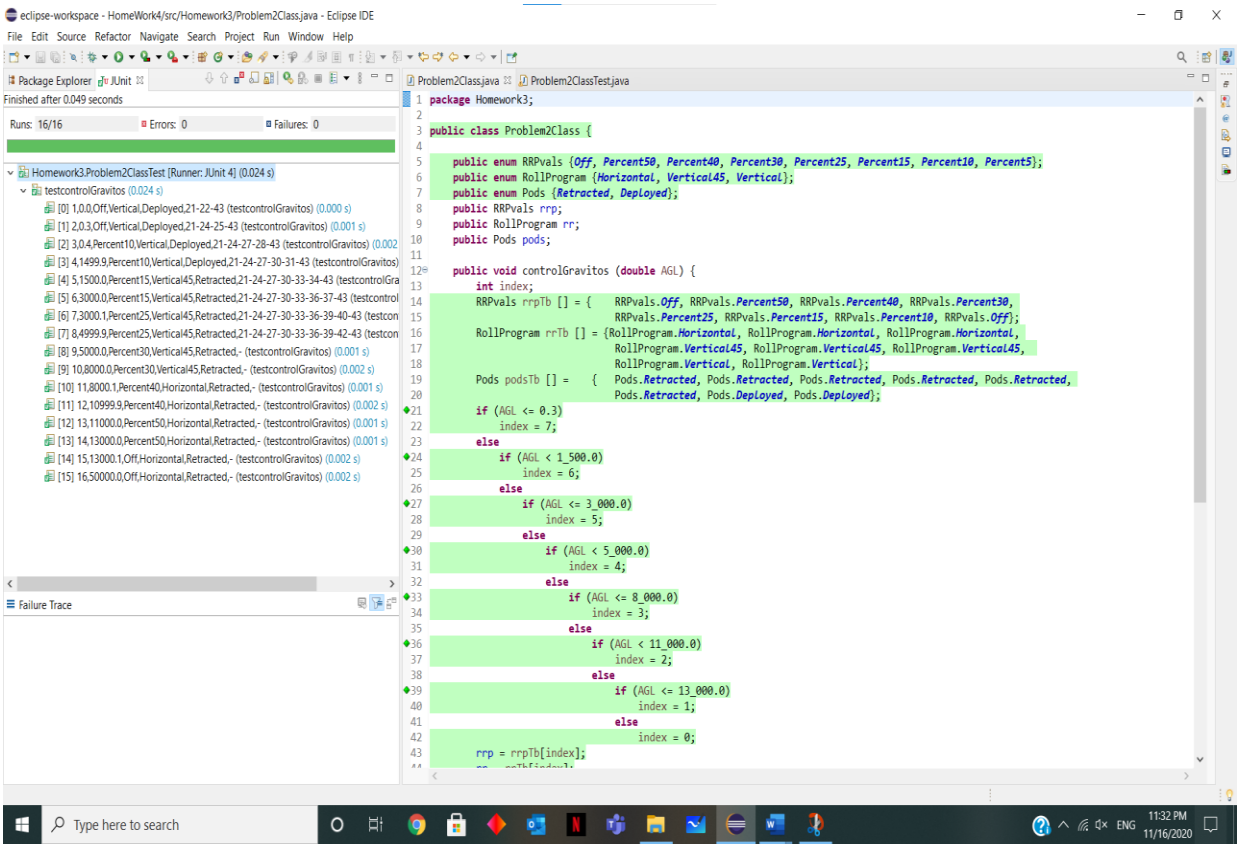
Solution1:

Test Case Number	Inputs	Exp Outputs	
	Usage (hours/mth)	Total Price	Basis Path
1	0.00	$270.63	7-8-29
2	1,000.00	$273.33	7-10-11-29
3	1,000.01	$546.66	7-10-13-14-29
4	2,499.99	$554.78	7-10-13-16-17-29
5	2,500.00	$838.94	7-10-13-16-19-20-29
6	5,000.00	$866.00	7-10-13-16-19-22-23-29
7	5,000.01	$1,109.56	7-10-13-16-19-22-25-26-29
8	6,499.99	$1,133.92	7-10-13-16-19-22-25-28-29
9	6,500.00	$1,331.48	-
10	8,000.00	$1,363.95	-
11	8,000.01	$1,547.98	-
12	9,999.99	$1,596.69	-
13	10,000.00	$1,437.02	-
14	15,000.00	$1,546.62	-
15	15,000.01	$1,725.23	-
16	20,000.00	$1,840.25	-



Solution2:

Test Case Number	Inputs	Expected Outputs			
	AGL (feet)	RRP	Roll Program	Pods	Basis Path
1	0.0	Off	Vertical	Deployed	21-22-43
2	0.3	Off	Vertical	Deployed	21-24-25-43
3	0.4	Percent10	Vertical	Deployed	21-24-27-28-43
4	1,499.9	Percent10	Vertical	Deployed	21-24-27-30-31-43
5	1,500.0	Percent15	Vertical45	Retracted	21-24-27-30-33-34-43
6	3,000.0	Percent15	Vertical45	Retracted	21-24-27-30-33-36-37-43
7	3,000.1	Percent25	Vertical45	Retracted	21-24-27-30-33-36-39-40-43
8	4,999.9	Percent25	Vertical45	Retracted	21-24-27-30-33-36-39-42-43
9	5,000.0	Percent30	Vertical45	Retracted	-
10	8,000.0	Percent30	Vertical45	Retracted	-
11	8,000.1	Percent40	Horizontal	Retracted	-
12	10,999.9	Percent40	Horizontal	Retracted	-
13	11,000.0	Percent50	Horizontal	Retracted	-
14	13,000.0	Percent50	Horizontal	Retracted	-
15	13,000.1	Off	Horizontal	Retracted	-
16	50,000.0	Off	Horizontal	Retracted	-


eclipse-workspace - HomeWork4/src/Homework3/Problem2Class.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
JUnit
Finished after 0.049 seconds
Runs: 16/16
Errors: 0
Failures: 0
Homework3.Problem2ClassTest [Runner: JUnit 4] (0.024 s)
testcontrolGravitos (0.024 s)
[0] 1,0,0,Off,Vertical,Deployed,21-22-43 (testcontrolGravitos) (0.000 s)
[1] 2,0,3,Off,Vertical,Deployed,21-24-25-43 (testcontrolGravitos) (0.001 s)
[2] 3,0,4,Percent10,Vertical,Deployed,21-24-27-28-43 (testcontrolGravitos) (0.002
[3] 4,1499.9,Percent10,Vertical,Deployed,21-24-27-30-31-43 (testcontrolGravitos)
[4] 5,1500.0,Percent15,Vertical45,Retracted,21-24-27-30-33-34-43 (testcontrolGra
[5] 6,3000.0,Percent15,Vertical45,Retracted,21-24-27-30-33-36-37-43 (testcontrol
[6] 7,3000.1,Percent25,Vertical45,Retracted,21-24-27-30-33-36-39-40-43 (testcon
[7] 8,4999.9,Percent25,Vertical45,Retracted,21-24-27-30-33-36-39-42-43 (testcon
[8] 9,5000.0,Percent30,Vertical45,Retracted,- (testcontrolGravitos) (0.001 s)
[9] 10,8000.0,Percent30,Vertical45,Retracted,- (testcontrolGravitos) (0.002 s)
[10] 11,8000.1,Percent40,Horizontal,Retracted,- (testcontrolGravitos) (0.001 s)
[11] 12,10999.9,Percent40,Horizontal,Retracted,- (testcontrolGravitos) (0.002 s)
[12] 13,11000.0,Percent50,Horizontal,Retracted,- (testcontrolGravitos) (0.001 s)
[13] 14,13000.0,Percent50,Horizontal,Retracted,- (testcontrolGravitos) (0.001 s)
[14] 15,13000.1,Off,Horizontal,Retracted,- (testcontrolGravitos) (0.002 s)
[15] 16,50000.0,Off,Horizontal,Retracted,- (testcontrolGravitos) (0.002 s)
Failure Trace
Problem2Class.java
Problem2ClassTest.java
package Homework3;
public class Problem2Class {
public enum RRPvals {Off, Percent50, Percent40, Percent30, Percent25, Percent15, Percent10, Percent5};
public enum RollProgram {Horizontal, Vertical45, Vertical};
public enum Pods {Retracted, Deployed};
public RRPvals rrp;
public RollProgram rr;
public Pods pods;
public void controlGravitos (double AGL) {
int index;
RRPvals rrpTb [] = { RRPvals.Off, RRPvals.Percent50, RRPvals.Percent40, RRPvals.Percent30,
RRPvals.Percent25, RRPvals.Percent15, RRPvals.Percent10, RRPvals.Off};
RollProgram rrTb [] = {RollProgram.Horizontal, RollProgram.Horizontal, RollProgram.Horizontal,
RollProgram.Vertical45, RollProgram.Vertical45, RollProgram.Vertical45,
RollProgram.Vertical, RollProgram.Vertical};
Pods podsTb [] = { Pods.Retracted, Pods.Retracted, Pods.Retracted, Pods.Retracted, Pods.Retracted,
Pods.Retracted, Pods.Deployed, Pods.Deployed};
if (AGL <= 0.3)
index = 7;
else
if (AGL < 1_500.0)
index = 6;
else
if (AGL <= 3_000.0)
index = 5;
else
if (AGL < 5_000.0)
index = 4;
else
if (AGL <= 8_000.0)
index = 3;
else
if (AGL < 11_000.0)
index = 2;
else
if (AGL <= 13_000.0)
index = 1;
else
index = 0;
rrp = rrpTb[index];
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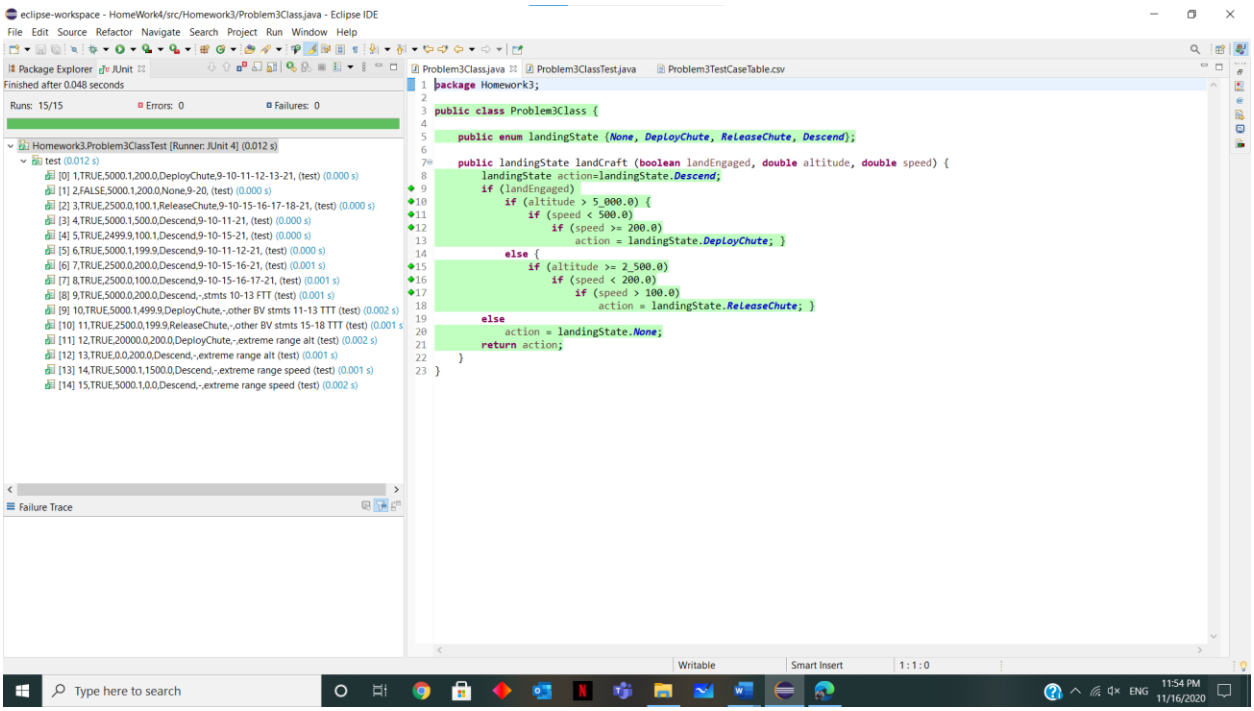
Soltution3:

Test Case Number	Inputs			Exp Out	Basis Path	Comments
	landEngaged	altitude (feet)	speed (MPH)	action		
1	TRUE	5,000.1	200.0	DeployChute	9-10-11-12-13-21	
2	FALSE	5,000.1	200.0	None	9-20	
3	TRUE	2,500.0	100.1	ReleaseChute	9-10-15-16-17-18-21	
4	TRUE	5,000.1	500.0	Descend	9-10-11-21	
5	TRUE	2,499.9	100.1	Descend	9-10-15-21	
6	TRUE	5,000.1	199.9	Descend	9-10-11-12-21	
7	TRUE	2,500.0	200.0	Descend	9-10-15-16-21	
8	TRUE	2,500.0	100.0	Descend	9-10-15-16-17-21	
9	TRUE	5,000.0	200.0	Descend	-	stmts 10-13 FTT
10	TRUE	5,000.1	499.9	DeployChute	-	other BV stmts 11-13 TTT
11	TRUE	2,500.0	199.9	ReleaseChute	-	other BV stmts 15-18 TTT
12	TRUE	20,000.0	200.0	DeployChute	-	extreme range alt
13	TRUE	0.0	200.0	Descend	-	extreme range alt
14	TRUE	5,000.1	1,500.0	Descend	-	extreme range speed
15	TRUE	5,000.1	0.0	Descend	-	extreme range speed

Any value may be used here


eclipse-workspace - HomeWork4/src/Homework3/Problem3Class.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer JUnit
Finished after 0.048 seconds
Runs: 15/15
Errors: 0
Failures: 0
Homework3.Problem3ClassTest [Runner: JUnit 4] (0.012 s)
test (0.012 s)
[0] 1,TRUE,5000.1,200.0,DeployChute,9-10-11-12-13-21, (test) (0.000 s)
[1] 2,FALSE,5000.1,200.0,None,9-20, (test) (0.000 s)
[2] 3,TRUE,2500.0,100.1,ReleaseChute,9-10-15-16-17-18-21, (test) (0.000 s)
[3] 4,TRUE,5000.1,500.0,Descend,9-10-11-21, (test) (0.000 s)
[4] 5,TRUE,2499.9,100.1,Descend,9-10-15-21, (test) (0.000 s)
[5] 6,TRUE,5000.1,199.9,Descend,9-10-11-12-21, (test) (0.000 s)
[6] 7,TRUE,2500.0,200.0,Descend,9-10-15-16-21, (test) (0.001 s)
[7] 8,TRUE,2500.0,100.0,Descend,9-10-15-16-17-21, (test) (0.001 s)
[8] 9,TRUE,5000.0,200.0,Descend,-,stmts 10-13 FTT (test) (0.001 s)
[9] 10,TRUE,5000.1,499.9,DeployChute,-,other BV stmts 11-13 TTT (test) (0.002 s)
[10] 11,TRUE,2500.0,199.9,ReleaseChute,-,other BV stmts 15-18 TTT (test) (0.001 s
[11] 12,TRUE,20000.0,200.0,DeployChute,-,extreme range alt (test) (0.002 s)
[12] 13,TRUE,0.0,200.0,Descend,-,extreme range alt (test) (0.001 s)
[13] 14,TRUE,5000.1,1500.0,Descend,-,extreme range speed (test) (0.001 s)
[14] 15,TRUE,5000.1,0.0,Descend,-,extreme range speed (test) (0.002 s)
Failure Trace
Problem3Class.java
Problem3ClassTest.java
Problem3TestCaseTable.csv
package Homework3;
public class Problem3Class {
public enum landingState {None, DeployChute, ReleaseChute, Descend};
public landingState landCraft (boolean landEngaged, double altitude, double speed) {
landingState action=landingState.Descend;
if (landEngaged)
if (altitude > 5_000.0) {
if (speed < 500.0)
if (speed >= 200.0)
action = landingState.DeployChute; }
else {
if (altitude >= 2_500.0)
if (speed < 200.0)
if (speed > 100.0)
action = landingState.ReleaseChute; }
else
action = landingState.None;
return action;
}
}
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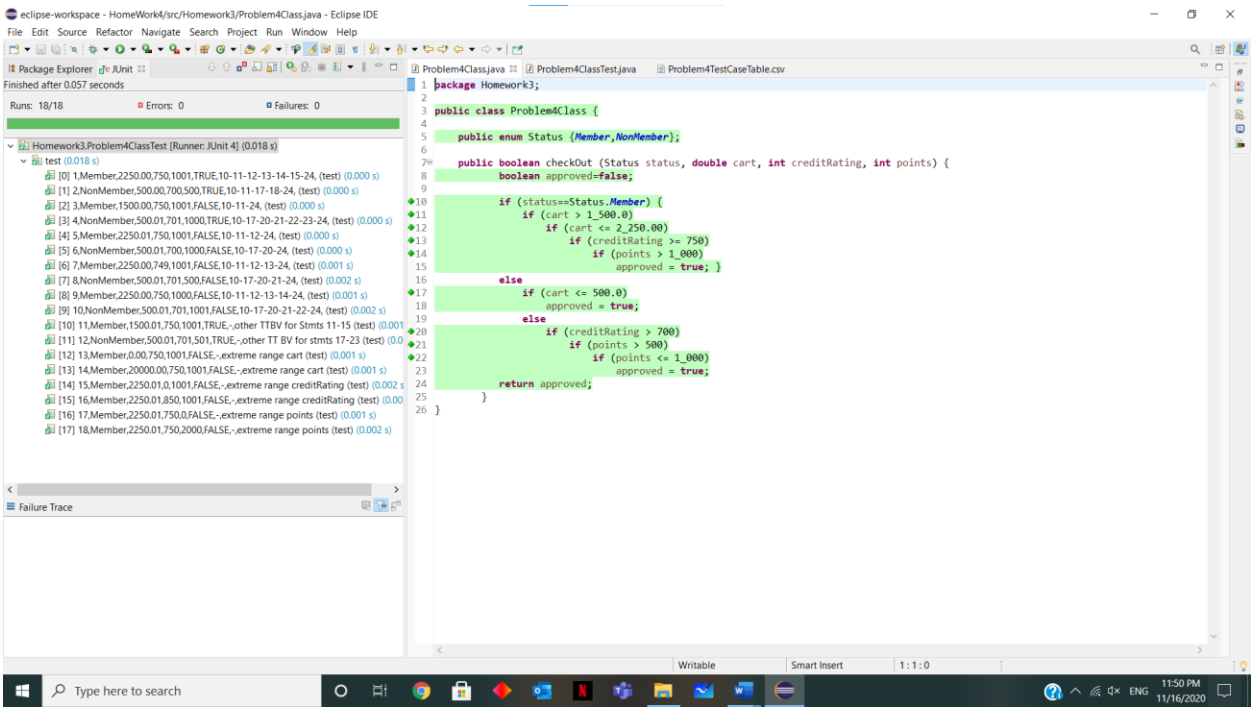
Soltution4:

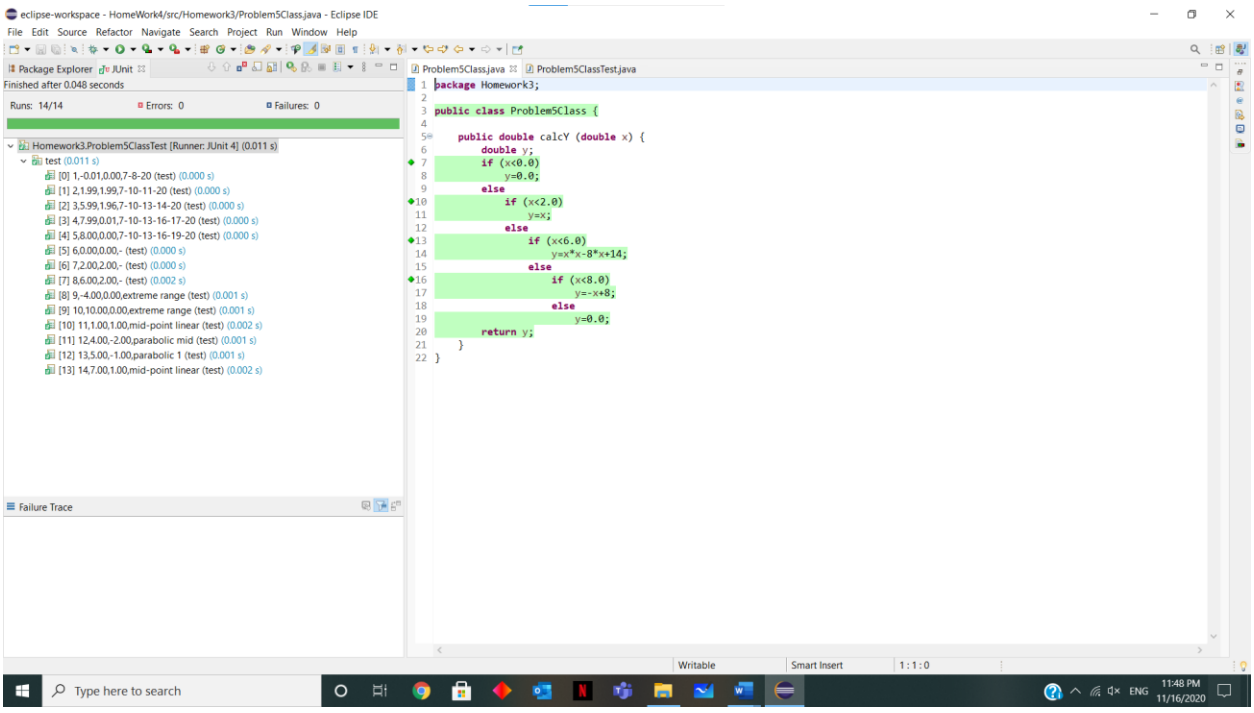
Test Case Number	Inputs				Exp Out	Basis Path	Comments
	status	cart	creditRating	points	return		
1	Member	$2,250.00	750	1,001	TRUE	10-11-12-13-14-15-24	
2	NonMember	$500.00	700	500	TRUE	10-11-17-18-24	
3	Member	$1,500.00	750	1,001	FALSE	10-11-24	
4	NonMember	$500.01	701	1,000	TRUE	10-17-20-21-22-23-24	
5	Member	$2,250.01	750	1,001	FALSE	10-11-12-24	
6	NonMember	$500.01	700	1,000	FALSE	10-17-20-24	
7	Member	$2,250.00	749	1,001	FALSE	10-11-12-13-24	
8	NonMember	$500.01	701	500	FALSE	10-17-20-21-24	
9	Member	$2,250.00	750	1,000	FALSE	10-11-12-13-14-24	
10	NonMember	$500.01	701	1,001	FALSE	10-17-20-21-22-24	
11	Member	$1,500.01	750	1,001	TRUE	-	other TT BV for stmts 11-15
12	NonMember	$500.01	701	501	TRUE	-	other TT BV for stmts 17-23
13	Member	$0.00	750	1,001	FALSE	-	extreme range cart
14	Member	$20,000.00	750	1,001	FALSE	-	extreme range cart
15	Member	$2,250.01	0	1,001	FALSE	-	extreme range creditRating
16	Member	$2,250.01	850	1,001	FALSE	-	extreme range creditRating
17	Member	$2,250.01	750	0	FALSE	-	extreme range points
18	Member	$2,250.01	750	2,000	FALSE	-	extreme range points

Any value may be used here



Soltution5:

Test Case Number	Inputs x	Exp Out y	Basis Path Tested
1	-0.01	0.00	7-8-20
2	1.99	1.99	7-10-11-20
3	5.99	1.96	7-10-13-14-20
4	7.99	0.01	7-10-13-16-17-20
5	8.00	0.00	7-10-13-16-19-20
6	0.00	0.00	-
7	2.00	2.00	-
8	6.00	2.00	-
9	-4.00	0.00	extreme range
10	10.00	0.00	extreme range
11	1.00	1.00	mid-point linear
12	4.00	-2.00	parabolic mid
13	5.00	-1.00	parabolic 1
14	7.00	1.00	mid-point linear


eclipse-workspace - HomeWork4/src/Homework3/Problem5Class.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer JUnit
Finished after 0.048 seconds
Runs: 14/14
Errors: 0
Failures: 0
Homework3.Problem5ClassTest [Runner: JUnit 4] (0.011 s)
test (0.011 s)
[0] 1,-0.01,0.00,7-8-20 (test) (0.000 s)
[1] 2,1.99,1.99,7-10-11-20 (test) (0.000 s)
[2] 3,5.99,1.96,7-10-13-14-20 (test) (0.000 s)
[3] 4,7.99,0.01,7-10-13-16-17-20 (test) (0.000 s)
[4] 5,8.00,0.00,7-10-13-16-19-20 (test) (0.000 s)
[5] 6,0.00,0.00,- (test) (0.000 s)
[6] 7,2.00,2.00,- (test) (0.000 s)
[7] 8,6.00,2.00,- (test) (0.002 s)
[8] 9,-4.00,0.00,extreme range (test) (0.001 s)
[9] 10,10.00,0.00,extreme range (test) (0.001 s)
[10] 11,1.00,1.00,mid-point linear (test) (0.002 s)
[11] 12,4.00,-2.00,parabolic mid (test) (0.001 s)
[12] 13,5.00,-1.00,parabolic 1 (test) (0.001 s)
[13] 14,7.00,1.00,mid-point linear (test) (0.002 s)
Failure Trace
Problem5Class.java
Problem5ClassTest.java
package Homework3;
public class Problem5Class {
public double calcY (double x) {
double y;
if (x<0.0)
y=0.0;
else
if (x<2.0)
y=x;
else
if (x<6.0)
y=x*x-8*x+14;
else
if (x<8.0)
y=-x+8;
else
y=0.0;
return y;
}
}
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11/16/2020