



MSA Insurance Testing Project

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# Contents

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Section 1:	Design for test cases	3
Section 2:	<b>Table of test cases:</b>	4
Section 3:	CMD	5
Section 4:	Test Report	6
Section 5:	Note	7

# Section 1:

## Derive test cases:

### Valid Range:

**A1**  $18 \leq \text{Age} \leq 25$

**A2**  $26 \leq \text{Age} \leq 75$

**P1**  $5k < \text{Price} < 50k$

### Invalid Range:

**A3**  $\rightarrow \text{Age} \leq 17$

**A4**  $\rightarrow \text{Age} \geq 76$

**P2**  $\rightarrow \text{Price} \leq 5k$

**P3**  $\rightarrow \text{Price} \geq 50k$

#### ➤ Mean for valid each valid rang:

- (A1=22)
- (A2=51)
- (P1=28K)

#### ➤ (-,+)Min And (-,+)Max for each valid rang:

- A1  $(17, 26)$  ,  $(24, 26)$
- A2  $(25, 27)$  ,  $(74, 75)$
- P1  $(4999, 5001)$  ,  $(49.999, 50.001)$

## Section 2:

### Table of test cases:

Test Case	Age	Price	Expected output
1	17	28k	Invalid
2	18	28k	Valid
3	19	28k	Valid
4	22	28k	Valid
5	24	28k	Valid
6	25	28k	Valid
7	26	28k	Valid
8	22	5000	Invalid
9	22	5001	valid
10	22	5002	Valid
11	22	49998	Valid
12	22	49999	valid
13	22	50k	invalid
14	27	28k	valid
15	51	28k	valid
16	74	28k	valid
17	75	28k	valid
18	76	28k	invalid
19	51	5000	invalid
20	51	5001	valid
21	51	5002	valid
22	51	49998	valid
23	51	49999	valid
24	51	50k	invalid

## Section 3:

### CMD :

```
Command Prompt
Microsoft Windows [Version 10.0.19044.1889]
(c) Microsoft Corporation. All rights reserved.

C:\Users\ASUS>java -classpath .;C:\Users\ASUS\Downloads\JUnit\junit-4.13.2.jar;C:\Users\ASUS\Downloads\JUnit\hamcrest-core-1.3.jar;C:\Users\ASUS\Desktop\new\Evaluator.jar;C:\Users\ASUS\eclipse-workspace\MAS_PROJECT\bin jo.edu.hu.bash.Tester 1
JUnit version 4.13.2
...E.E.E.E.E.E.E.....E.
Time: 0.018
There were 9 failures:
1) test14(jo.edu.hu.bash.EvaluatorValidTest)
java.lang.AssertionError: expected:<560.0> but was:<420.0>
    at org.junit.Assert.fail(Assert.java:89)
    at org.junit.Assert.failNotEquals(Assert.java:835)
    at org.junit.Assert.assertEquals(Assert.java:555)
    at org.junit.Assert.assertEquals(Assert.java:685)
    at jo.edu.hu.bash.EvaluatorValidTest.test14(EvaluatorValidTest.java:89)
2) test15(jo.edu.hu.bash.EvaluatorValidTest)
java.lang.AssertionError: expected:<560.0> but was:<420.0>
    at org.junit.Assert.fail(Assert.java:89)
    at org.junit.Assert.failNotEquals(Assert.java:835)
    at org.junit.Assert.assertEquals(Assert.java:555)
    at org.junit.Assert.assertEquals(Assert.java:685)
    at jo.edu.hu.bash.EvaluatorValidTest.test15(EvaluatorValidTest.java:95)
3) test16(jo.edu.hu.bash.EvaluatorValidTest)
java.lang.AssertionError: expected:<560.0> but was:<420.0>
    at org.junit.Assert.fail(Assert.java:89)
    at org.junit.Assert.failNotEquals(Assert.java:835)
    at org.junit.Assert.assertEquals(Assert.java:555)
    at org.junit.Assert.assertEquals(Assert.java:685)
    at jo.edu.hu.bash.EvaluatorValidTest.test16(EvaluatorValidTest.java:102)
4) test17(jo.edu.hu.bash.EvaluatorValidTest)
java.lang.AssertionError: expected:<560.0> but was:<420.0>
    at org.junit.Assert.fail(Assert.java:89)
    at org.junit.Assert.failNotEquals(Assert.java:835)
    at org.junit.Assert.assertEquals(Assert.java:555)
    at org.junit.Assert.assertEquals(Assert.java:685)
    at jo.edu.hu.bash.EvaluatorValidTest.test17(EvaluatorValidTest.java:108)
5) test20(jo.edu.hu.bash.EvaluatorValidTest)
java.lang.AssertionError: expected:<100.02> but was:<75.015>
    at org.junit.Assert.fail(Assert.java:89)
    at org.junit.Assert.failNotEquals(Assert.java:835)
    at org.junit.Assert.assertEquals(Assert.java:555)
    at org.junit.Assert.assertEquals(Assert.java:685)
    at jo.edu.hu.bash.EvaluatorValidTest.test20(EvaluatorValidTest.java:114)
6) test21(jo.edu.hu.bash.EvaluatorValidTest)
java.lang.AssertionError: expected:<100.04> but was:<75.03>
    at org.junit.Assert.fail(Assert.java:89)
    at org.junit.Assert.failNotEquals(Assert.java:835)
    at org.junit.Assert.assertEquals(Assert.java:555)
    at org.junit.Assert.assertEquals(Assert.java:685)
    at jo.edu.hu.bash.EvaluatorValidTest.test21(EvaluatorValidTest.java:120)
7) test22(jo.edu.hu.bash.EvaluatorValidTest)
java.lang.AssertionError: expected:<999.95> but was:<749.97>
    at org.junit.Assert.fail(Assert.java:89)
    at org.junit.Assert.failNotEquals(Assert.java:835)
    at org.junit.Assert.assertEquals(Assert.java:555)
    at org.junit.Assert.assertEquals(Assert.java:685)
    at jo.edu.hu.bash.EvaluatorValidTest.test22(EvaluatorValidTest.java:126)
8) test23(jo.edu.hu.bash.EvaluatorValidTest)
java.lang.AssertionError: expected:<999.98> but was:<749.985>
    at org.junit.Assert.fail(Assert.java:89)
    at org.junit.Assert.failNotEquals(Assert.java:835)
    at org.junit.Assert.assertEquals(Assert.java:555)
```

java -classpath .;C:\Users\ASUS\Downloads\JUnit\junit-4.13.2.jar;C:\Users\ASUS\Downloads\JUnit\hamcrest-core-1.3.jar;C:\Users\ASUS\Desktop\new\Evaluator.jar;C:\Users\ASUS\eclipse-workspace\MAS\_PROJECT\bin jo.edu.hu.bash.Tester 1

## Section 4:

### Test Report:

Test Case	Input(Age,Price)	Expected Output	Actual Output	Comment
1	(17,28k)	Throws Exception	Didn't Throws Exception	Fail: the method should throw Invalid Evaluation Exception because the age was not valid.
2	(18,28k)	1400	1400	Pass
3	(19,28k)	1400	1400	Pass
4	(22,28k)	1400	1400	Pass
5	(24,28k)	1400	1400	Pass
6	(25,28k)	1400	1400	Pass
7	(26,28k)	560	1400	Fail: the method should return 560 but it return 1400
8	(22,5k)	Throws Exception	Throws Exception	Pass
9	(22,5001)	250.05	250.05	Pass
10	(22,5002)	250.1	250.1	Pass
11	(22,49998)	2499.9	2499.9	Pass
12	(22,49999)	2499.95	2499.95	Pass
13	(22,50k)	Throws Exception	Throws Exception	Pass
14	(27,28k)	560	420	Fail: the method should return 560 but it returns 420
15	(51,28k)	560	420	Fail: the method should return 560 but it returns 420
16	(74,28k)	560	420	Fail: the method should return 560 but it returns 420

<b>17</b>	(75,28k)	560	420	Fail: the method should return 560 but it returns 420
<b>18</b>	(76,28k)	Throws Exception	Throws Exception	Pass
<b>19</b>	(51,5k)	Throws Exception	Throws Exception	Pass
<b>20</b>	(51,5001)	100.02	75.015	Fail: the method should return 100.02 but it returns 75.015
<b>21</b>	(51,5002)	100.04	75.03	Fail: the method should return 100.04 but it returns 75.03
<b>22</b>	(51,49998)	999.96	749.97	Fail: the method should return 999.96 but it returns 749.79
<b>23</b>	(51,49999)	999.98	749.985	Fail: the method should return 999.98 but it return 749.985
<b>24</b>	(51,50k)	Throws Exception	Throws Exception	Pass

Note:

- MAS is the name of the car insurance company
- There are two problems in the code
  - The first one is in the age conditions
  - The second one in people whose age from 26 to 75 there a problem in calculating the pay