Problem_1_setWarnings.java

```
1
    package Code;
2
3
    public class Problem 1 setWarnings {
4
5
             private boolean brakes,redLight,yellowLight,greenLight,buzzer;
6
7
             public void setWarnings (double distance) {
8 6
                      redLight=yellowLight=greenLight=buzzer=brakes=false;
9 5
                      if (distance >= 200.0)
10 2
                               greenLight=true;
11
                      else
12 <u>5</u>
                               if (distance > 75.0)
13 <u>2</u>
                                        yellowLight=true;
14
                               else
15 <u>5</u>
                                        if (distance >= 25.0) {
16 <u>2</u>
                                                  redLight=true;
17 <u>2</u>
                                                 yellowLight=true;}
18
                                        else {
19 <mark>2</mark>
                                                  brakes=true;
20 2
                                                  redLight=true;
21 2
                                                 yellowLight=true;
22 2
                                                  buzzer=true;}
23
24
25
             public boolean isBrakes() {
26 <u>1</u>
                      return brakes;
27
             }
28
29
             public void setBrakes(boolean brakes) {
30 1
                      this.brakes = brakes;
31
32
33
             public boolean isRedLight() {
34 1
                      return redLight;
35
             }
36
37
             public void setRedLight(boolean redLight) {
38 1
                      this.redLight = redLight;
39
             }
```

40

```
41
            public boolean isYellowLight() {
42 1
                     return yellowLight;
43
            }
44
45
            public void setYellowLight(boolean yellowLight) {
46 1
                     this.vellowLight = vellowLight;
            }
47
48
49
            public boolean isGreenLight() {
50 <u>1</u>
                     return greenLight;
51
            }
52
53
            public void setGreenLight(boolean greenLight) {
54 <u>1</u>
                     this.greenLight = greenLight;
55
            }
56
57
            public boolean isBuzzer() {
58 <u>1</u>
                     return buzzer;
59
            }
60
61
            public void setBuzzer(boolean buzzer) {
62 1
                     this.buzzer = buzzer;
63
64
65
    Mutations
    1. Substituted 0 with 1 → KILLED
    2. Removed assignment to member variable brakes → SURVIVED
    3. Removed assignment to member variable buzzer → SURVIVED
8
    4. Removed assignment to member variable greenLight → SURVIVED
    5. Removed assignment to member variable yellowLight → SURVIVED
    6. Removed assignment to member variable redLight → SURVIVED

    changed conditional boundary → KILLED

    2. Substituted 200.0 with 1.0 → KILLED
9
    negated conditional → KILLED
    4. removed conditional - replaced comparison check with false → KILLED
    5. removed conditional - replaced comparison check with true → KILLED
    1. Substituted 1 with 0 → KILLED
10
    2. Removed assignment to member variable greenLight → KILLED
    1. changed conditional boundary → KILLED
<u>12</u>
    2. Substituted 75.0 with 1.0 → KILLED
    negated conditional → KILLED
```

 removed conditional - replaced comparison check with false → KILLED 5. removed conditional - replaced comparison check with true → KILLED 1. Substituted 1 with 0 → KILLED <u>13</u> 2. Removed assignment to member variable yellowLight → KILLED changed conditional boundary → KILLED 2. Substituted 25.0 with 1.0 → KILLED 15 3. negated conditional → KILLED removed conditional - replaced comparison check with false → KILLED 5. removed conditional - replaced comparison check with true → KILLED 1. Substituted 1 with 0 → KILLED 16 2. Removed assignment to member variable redLight → KILLED 1. Substituted 1 with 0 → KILLED <u>17</u> 2. Removed assignment to member variable yellowLight → KILLED 1. Substituted 1 with 0 → KILLED <u>19</u> Removed assignment to member variable brakes → KILLED 1. Substituted 1 with 0 → KILLED <u> 20</u> 2. Removed assignment to member variable redLight → KILLED 1. Substituted 1 with 0 → KILLED <u>21</u> Removed assignment to member variable yellowLight → KILLED 1. Substituted 1 with 0 → KILLED <u>22</u> Removed assignment to member variable buzzer → KILLED 1. replaced return of integer sized value with $(x == 0 ? 1 : 0) \rightarrow KILLED$ 26 30 Removed assignment to member variable brakes → NO COVERAGE 1. replaced return of integer sized value with $(x == 0 ? 1 : 0) \rightarrow KILLED$ 34 Removed assignment to member variable redLight → NO COVERAGE 38 <u>42</u> 1. replaced return of integer sized value with $(x == 0 ? 1 : 0) \rightarrow KILLED$ 46 Removed assignment to member variable yellowLight → NO COVERAGE 1. replaced return of integer sized value with $(x == 0 ? 1 : 0) \rightarrow KILLED$ <u>50</u> <u>54</u> Removed assignment to member variable greenLight → NO COVERAGE 1. replaced return of integer sized value with $(x == 0 ? 1 : 0) \rightarrow KILLED$ 58 62 Removed assignment to member variable buzzer → NO COVERAGE

Active mutators

- RETURN VALS MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 61
- EXPERIMENTAL REMOVE SWITCH MUTATOR 60
- CONDITIONALS BOUNDARY MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 56
- EXPERIMENTAL REMOVE SWITCH MUTATOR 55
- EXPERIMENTAL REMOVE SWITCH MUTATOR 58
- EXPERIMENTAL REMOVE SWITCH MUTATOR 57
- EXPERIMENTAL REMOVE SWITCH MUTATOR 52
- VOID METHOD CALL MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 51
- EXPERIMENTAL REMOVE SWITCH MUTATOR 54
- EXPERIMENTAL REMOVE SWITCH MUTATOR 53
- EXPERIMENTAL REMOVE SWITCH MUTATOR 59
- EXPERIMENTAL REMOVE SWITCH MUTATOR 50

- EXPERIMENTAL REMOVE SWITCH MUTATOR 45
- EXPERIMENTAL REMOVE SWITCH MUTATOR 44
- EXPERIMENTAL REMOVE SWITCH MUTATOR 47
- EXPERIMENTAL REMOVE SWITCH MUTATOR 46
- EXPERIMENTAL REMOVE SWITCH MUTATOR 41
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_40
- EXPERIMENTAL REMOVE SWITCH MUTATOR 43
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_42
- NEGATE CONDITIONALS MUTATOR
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_49
- EXPERIMENTAL REMOVE SWITCH MUTATOR 48
- INLINE CONSTANT MUTATOR
- CONSTRUCTOR CALL MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 34
- EXPERIMENTAL REMOVE SWITCH MUTATOR 33
- EXPERIMENTAL REMOVE SWITCH MUTATOR 36
- EXPERIMENTAL REMOVE SWITCH MUTATOR 35
- EXPERIMENTAL MEMBER VARIABLE MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 30
- EXPERIMENTAL REMOVE SWITCH MUTATOR 32
- EXPERIMENTAL REMOVE SWITCH MUTATOR 31
- REMOVE CONDITIONALS ORDER ELSE MUTATOR
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_38
- EXPERIMENTAL REMOVE SWITCH MUTATOR 37
- EXPERIMENTAL REMOVE SWITCH MUTATOR 39
- EXPERIMENTAL REMOVE SWITCH MUTATOR 3
- EXPERIMENTAL REMOVE SWITCH MUTATOR 2
- EXPERIMENTAL REMOVE SWITCH MUTATOR 1
- INVERT NEGS MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 0
- EXPERIMENTAL REMOVE SWITCH MUTATOR 23
- EXPERIMENTAL REMOVE SWITCH MUTATOR 22
- EXPERIMENTAL REMOVE SWITCH MUTATOR 25
- EXPERIMENTAL REMOVE SWITCH MUTATOR 9
- EXPERIMENTAL REMOVE SWITCH MUTATOR 24
- EXPERIMENTAL REMOVE SWITCH MUTATOR 8
- EXPERIMENTAL REMOVE SWITCH MUTATOR 7
- EXPERIMENTAL REMOVE SWITCH MUTATOR 6
- EXPERIMENTAL REMOVE SWITCH MUTATOR 21
- EXPERIMENTAL REMOVE SWITCH MUTATOR 5
- EXPERIMENTAL REMOVE SWITCH MUTATOR 20
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_4
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_27
- EXPERIMENTAL REMOVE SWITCH MUTATOR 26
- EXPERIMENTAL REMOVE SWITCH MUTATOR 29
- EXPEDIMENTAL DEMOVE CULTCH MUTATOD 20
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_28
- REMOVE INCREMENTS MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 12
- EXPERIMENTAL REMOVE SWITCH MUTATOR 11
- EXPERIMENTAL REMOVE SWITCH MUTATOR 99
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_14
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_13
- EXPERIMENTAL REMOVE SWITCH MUTATOR 96
- EXPERIMENTAL REMOVE SWITCH MUTATOR 95
 EXPERIMENTAL REMOVE SWITCH MUTATOR 10
- EXPERIMENTAL REMOVE SWITCH MUTATOR 98
- EXPERIMENTAL REMOVE SWITCH MUTATOR 97
- EXPERIMENTAL REMOVE SWITCH MUTATOR 19
- EXPERIMENTAL REMOVE SWITCH MUTATOR 16
- EXPERIMENTAL REMOVE SWITCH MUTATOR 15
- EXPERIMENTAL REMOVE SWITCH MUTATOR 18

- EXPERIMENTAL REMOVE SWITCH MUTATOR 17
- EXPERIMENTAL_SWITCH_MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 92
- ARGUMENT PROPAGATION MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 91
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_94
- EXPERIMENTAL REMOVE SWITCH MUTATOR 93
- EXPERIMENTAL REMOVE SWITCH MUTATOR 90
- EXPERIMENTAL REMOVE SWITCH MUTATOR 89
- EXPERIMENTAL REMOVE SWITCH MUTATOR 88
- EXPERIMENTAL REMOVE SWITCH MUTATOR 85
- EXPERIMENTAL REMOVE SWITCH MUTATOR 84
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_87
- EXPERIMENTAL REMOVE SWITCH MUTATOR 86
- MATH MUTATOR
- NON VOID METHOD CALL MUTATOR
- REMOVE_CONDITIONALS_EQUAL_IF_MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 81
- EXPERIMENTAL REMOVE SWITCH MUTATOR 80
- EXPERIMENTAL REMOVE SWITCH MUTATOR 83
- EXPERIMENTAL REMOVE SWITCH MUTATOR 82
- EXPERIMENTAL REMOVE SWITCH MUTATOR 78
- REMOVE CONDITIONALS EQUAL ELSE MUTATOR
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_77
- EXPERIMENTAL REMOVE SWITCH MUTATOR 79
- INCREMENTS MUTATOR
- EXPERIMENTĀL REMOVE SWITCH MUTATOR 74
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_73
- EXPERIMENTAL REMOVE SWITCH MUTATOR 76
- EXPERIMENTAL REMOVE SWITCH MUTATOR 75
- EXPERIMENTAL REMOVE SWITCH MUTATOR 70
- EXPERIMENTAL REMOVE SWITCH MUTATOR 72
- EXPERIMENTAL REMOVE SWITCH MUTATOR 71
- REMOVE CONDITIONALS ORDER IF MUTATOR
- EXPERIMENTAL REMOVE SWITCH MUTATOR 67
- EXPERIMENTAL REMOVE SWITCH MUTATOR 66
- EXPERIMENTAL REMOVE SWITCH MUTATOR 69
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_68
- EXPERIMENTAL REMOVE SWITCH MUTATOR 63
- EXPERIMENTAL REMOVE SWITCH MUTATOR 62
- EXPERIMENTAL REMOVE SWITCH MUTATOR 65
- EXPERIMENTAL REMOVE SWITCH MUTATOR 64

Tests examined

• Code.Problem 1 setWarningsTests.Code.Problem 1 setWarningsTests (47 ms)

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