DataUtilities.java

```
1     /* ===========================================================
2      * JFreeChart : a free chart library for the Java(tm) platform
3      * ===========================================================
4      *
5      * (C) Copyright 2000-2013, by Object Refinery Limited and Contributors.
6      *
7      * Project Info:  http://www.jfree.org/jfreechart/index.html
8      *
9      * This library is free software; you can redistribute it and/or modify it
10     * under the terms of the GNU Lesser General Public License as published by
11     * the Free Software Foundation; either version 2.1 of the License, or
12     * (at your option) any later version.
13     *
14     * This library is distributed in the hope that it will be useful, but
15     * WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY
16     * or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public
17     * License for more details.
18     *
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20     * License along with this library; if not, write to the Free Software
21     * Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA  02110-1301,
22     * USA.
23     *
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25     * Other names may be trademarks of their respective owners.]
26     *
27     * ------------------
28     * DataUtilities.java
29     * ------------------
30     * (C) Copyright 2003-2013, by Object Refinery Limited and contributors.
31     *
32     * Original Author:  David Gilbert (for Object Refinery Limited);
33     * Contributor(s):   Peter Kolb (patch 2511330);
34     *
35     * Changes
36     * -------
37     * 05-Mar-2003 : Version 1 (DG);
38     * 03-Mar-2005 : Moved createNumberArray() and createNumberArray2D() methods
39     *               from the DatasetUtilities class (DG);
40     * 17-May-2005 : Added calculateColumnTotal() and calculateRowTotal()
41     *               methods (DG);
42     * 28-Jan-2009 : Added equal(double[][], double[][]) method (DG);
43     * 28-Jan-2009 : Added clone(double[][]) method (DG);
44     * 04-Feb-2009 : Added calculateColumnTotal/RowTotal variants (PK);
45     * 03-Jul-2013 : Use ParamChecks (DG);
46     *
47     */
48
49     package org.jfree.data;
```

```
50
51    import java.util.Arrays;
52    import org.jfree.chart.util.ParamChecks;
53    import org.jfree.data.general.DatasetUtilities;
54
55    /**
56     * Utility methods for use with some of the data classes (but not the datasets,
57     * see {@link DatasetUtilities}).
58     */
59    public abstract class DataUtilities {
60
61        /**
62         * Tests two arrays for equality.  To be considered equal, the arrays must
63         * have exactly the same dimensions, and the values in each array must also
64         * match (two values that qre both NaN or both INF are considered equal
65         * in this test).
66         *
67         * @param a  the first array (<code>null</code> permitted).
68         * @param b  the second array (<code>null</code> permitted).
69         *
70         * @return A boolean.
71         *
72         * @since 1.0.13
73         */
74        public static boolean equal(double[][] a, double[][] b) {
75
76  4          if (a == null) {
77  19             return (b == null);
78             }
79  4          if (b == null) {
80  7             return false;  // already know 'a' isn't null
81             }
82  8          if (a.length!=b.length) {
83  7             return false;
84             }
85  19         for (int i = 0; i < a.length; i++) {
86  19             if (!Arrays.equals(a[i], b[i])) {
87  7                 return false;
88             }
89         }
90  8          return true;
91        }
92
93        /**
94         * Returns a clone of the specified array.
95         *
96         * @param source  the source array (<code>null</code> not permitted).
97         *
98         * @return A clone of the array.
99         *
100        * @since 1.0.13
101        */
102       public static double[][] clone(double[][] source) {
```

```
103 1            ParamChecks.nullNotPermitted(source, "source");
104              double[][] clone = new double[source.length][];
105 19           for (int i = 0; i < source.length; i++) {
106 9                if (source[i] != null) {
107 5                    double[] row = new double[source[i].length];
108 21                   System.arraycopy(source[i], 0, row, 0, source[i].length);
109 5                    clone[i] = row;
110                  }
111              }
112 2            return clone;
113          }
114
115          /**
116           * Returns the total of the values in one column of the supplied data
117           * table.
118           *
119           * @param data  the table of values (<code>null</code> not permitted).
120           * @param column  the column index (zero-based).
121           *
122           * @return The total of the values in the specified column.
123           */
124          public static double calculateColumnTotal(Values2D data, int column) {
125 1            ParamChecks.nullNotPermitted(data, "data");
126 5            double total = 0.0;
127 1            int rowCount = data.getRowCount();
128 25           for (int r = 0; r < rowCount; r++) {
129 11               Number n = data.getValue(r, column);
130 4                if (n != null) {
131 13                   total += n.doubleValue();
132                  }
133              }
134 7            return total;
135          }
136
137          /**
138           * Returns the total of the values in one column of the supplied data
139           * table by taking only the row numbers in the array into account.
140           *
141           * @param data  the table of values (<code>null</code> not permitted).
142           * @param column  the column index (zero-based).
143           * @param validRows the array with valid rows (zero-based).
144           *
145           * @return The total of the valid values in the specified column.
146           *
147           * @since 1.0.13
148           */
149          public static double calculateColumnTotal(Values2D data, int column,
150                  int[] validRows) {
151 1            ParamChecks.nullNotPermitted(data, "data");
152 5            double total = 0.0;
153 1            int rowCount = data.getRowCount();
154 20           for (int v = 0; v < validRows.length; v++) {
155 10               int row = validRows[v];
```

```
156 19              if (row < rowCount) {
157 11                  Number n = data.getValue(row, column);
158 4                   if (n != null) {
159 13                      total += n.doubleValue();
160                     }
161                 }
162             }
163 7          return total;
164         }
165
166         /**
167          * Returns the total of the values in one row of the supplied data
168          * table.
169          *
170          * @param data  the table of values (<code>null</code> not permitted).
171          * @param row  the row index (zero-based).
172          *
173          * @return The total of the values in the specified row.
174          */
175         public static double calculateRowTotal(Values2D data, int row) {
176 1          ParamChecks.nullNotPermitted(data, "data");
177 5          double total = 0.0;
178 1          int columnCount = data.getColumnCount();
179 25         for (int c = 0; c < columnCount; c++) {
180 11             Number n = data.getValue(row, c);
181 4              if (n != null) {
182 13                 total += n.doubleValue();
183                }
184            }
185 7          return total;
186         }
187
188         /**
189          * Returns the total of the values in one row of the supplied data
190          * table by taking only the column numbers in the array into account.
191          *
192          * @param data  the table of values (<code>null</code> not permitted).
193          * @param row  the row index (zero-based).
194          * @param validCols the array with valid cols (zero-based).
195          *
196          * @return The total of the valid values in the specified row.
197          *
198          * @since 1.0.13
199          */
200         public static double calculateRowTotal(Values2D data, int row,
201                 int[] validCols) {
202 1          ParamChecks.nullNotPermitted(data, "data");
203 5          double total = 0.0;
204 1          int colCount = data.getColumnCount();
205 20         for (int v = 0; v < validCols.length; v++) {
206 10             int col = validCols[v];
207 19             if (col < colCount) {
208 11                 Number n = data.getValue(row, col);
```

```
209 4              if (n != null) {
210 13                 total += n.doubleValue();
211                 }
212             }
213         }
214 7       return total;
215     }
216
217     /**
218      * Constructs an array of <code>Number</code> objects from an array of
219      * <code>double</code> primitives.
220      *
221      * @param data  the data (<code>null</code> not permitted).
222      *
223      * @return An array of <code>Double</code>.
224      */
225     public static Number[] createNumberArray(double[] data) {
226 1       ParamChecks.nullNotPermitted(data, "data");
227         Number[] result = new Number[data.length];
228 19      for (int i = 0; i < data.length; i++) {
229 16          result[i] = new Double(data[i]);
230         }
231 2       return result;
232     }
233
234     /**
235      * Constructs an array of arrays of <code>Number</code> objects from a
236      * corresponding structure containing <code>double</code> primitives.
237      *
238      * @param data  the data (<code>null</code> not permitted).
239      *
240      * @return An array of <code>Double</code>.
241      */
242     public static Number[][] createNumberArray2D(double[][] data) {
243 1       ParamChecks.nullNotPermitted(data, "data");
244         int l1 = data.length;
245 5       Number[][] result = new Number[l1][];
246 25      for (int i = 0; i < l1; i++) {
247 11          result[i] = createNumberArray(data[i]);
248         }
249 2       return result;
250     }
251
252     /**
253      * Returns a {@link KeyedValues} instance that contains the cumulative
254      * percentage values for the data in another {@link KeyedValues} instance.
255      * <p>
256      * The percentages are values between 0.0 and 1.0 (where 1.0 = 100%).
257      *
258      * @param data  the data (<code>null</code> not permitted).
259      *
260      * @return The cumulative percentages.
261      */
```

```
262        public static KeyedValues getCumulativePercentages(KeyedValues data) {
263 1          ParamChecks.nullNotPermitted(data, "data");
264 1          DefaultKeyedValues result = new DefaultKeyedValues();
265 5          double total = 0.0;
266 20         for (int i = 0; i < data.getItemCount(); i++) {
267 6             Number v = data.getValue(i);
268 4             if (v != null) {
269 13                total = total + v.doubleValue();
270            }
271        }
272 5          double runningTotal = 0.0;
273 20         for (int i = 0; i < data.getItemCount(); i++) {
274 6             Number v = data.getValue(i);
275 4             if (v != null) {
276 13                runningTotal = runningTotal + v.doubleValue();
277            }
278 25            result.addValue(data.getKey(i), new Double(runningTotal / total));
279        }
280 2          return result;
281    }
282
283 }
```

Mutations

76	1. negated conditional → KILLED 2. removed conditional - replaced equality check with false → SURVIVED 3. removed conditional - replaced equality check with true → KILLED 4. not equal to equal → KILLED
77	1. replaced boolean return with false for org/jfree/data/DataUtilities::equal → NO_COVERAGE 2. replaced boolean return with true for org/jfree/data/DataUtilities::equal → NO_COVERAGE 3. Substituted 1 with 0 → NO_COVERAGE 4. Substituted 0 with 1 → NO_COVERAGE 5. negated conditional → NO_COVERAGE 6. removed conditional - replaced equality check with false → NO_COVERAGE 7. removed conditional - replaced equality check with true → NO_COVERAGE 8. replaced return of integer sized value with (x == 0 ? 1 : 0) → NO_COVERAGE 9. replaced return of integer sized value with (x == 0 ? 1 : 0) → NO_COVERAGE 10. Substituted 0 with 1 → NO_COVERAGE 11. Substituted 1 with 0 → NO_COVERAGE 12. Substituted 1 with -1 → NO_COVERAGE 13. Substituted 0 with -1 → NO_COVERAGE 14. Substituted 1 with -1 → NO_COVERAGE 15. Substituted 1 with 2 → NO_COVERAGE 16. Substituted 0 with 1 → NO_COVERAGE 17. Substituted 1 with 0 → NO_COVERAGE 18. Substituted 0 with -1 → NO_COVERAGE 19. not equal to equal → NO_COVERAGE
79	1. negated conditional → KILLED 2. removed conditional - replaced equality check with false → SURVIVED 3. removed conditional - replaced equality check with true → KILLED 4. not equal to equal → KILLED
80	1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → NO_COVERAGE 2. Substituted 0 with 1 → NO_COVERAGE 3. replaced return of integer sized value with (x == 0 ? 1 : 0) → NO_COVERAGE 4. Substituted 0 with 1 → NO_COVERAGE

5. Substituted 0 with -1 → NO_COVERAGE
6. Substituted 0 with 1 → NO_COVERAGE
7. Substituted 0 with -1 → NO_COVERAGE

82

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → SURVIVED
3. removed conditional - replaced equality check with true → KILLED
4. equal to less than → KILLED
5. equal to less or equal → SURVIVED
6. equal to greater than → KILLED
7. equal to greater or equal → SURVIVED
8. equal to not equal → KILLED

83

1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → NO_COVERAGE
2. Substituted 0 with 1 → NO_COVERAGE
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → NO_COVERAGE
4. Substituted 0 with 1 → NO_COVERAGE
5. Substituted 0 with -1 → NO_COVERAGE
6. Substituted 0 with 1 → NO_COVERAGE
7. Substituted 0 with -1 → NO_COVERAGE

85

1. changed conditional boundary → KILLED
2. Substituted 0 with 1 → SURVIVED
3. negated conditional → SURVIVED
4. removed conditional - replaced comparison check with false → KILLED
5. removed conditional - replaced comparison check with true → SURVIVED
6. Negated integer local variable number 2 → KILLED
7. Substituted 0 with 1 → SURVIVED
8. Substituted 0 with -1 → KILLED
9. Substituted 0 with 1 → SURVIVED
10. Substituted 0 with -1 → KILLED
11. Less than to less or equal → KILLED
12. Less than to greater than → SURVIVED
13. Less than to greater or equal → SURVIVED
14. Less than to equal → SURVIVED
15. Less than to not equal → SURVIVED
16. Incremented (a++) integer local variable number 2 → SURVIVED
17. Decremented (a--) integer local variable number 2 → KILLED
18. Incremented (++a) integer local variable number 2 → SURVIVED
19. Decremented (--a) integer local variable number 2 → KILLED

86

1. negated conditional → KILLED
2. removed call to java/util/Arrays::equals → KILLED
3. removed conditional - replaced equality check with false → SURVIVED
4. removed conditional - replaced equality check with true → KILLED
5. Negated integer local variable number 2 → KILLED
6. Negated integer local variable number 2 → KILLED
7. not equal to less than → KILLED
8. not equal to less or equal → KILLED
9. not equal to greater than → SURVIVED
10. not equal to greater or equal → SURVIVED
11. not equal to equal → KILLED
12. Incremented (a++) integer local variable number 2 → KILLED
13. Incremented (a++) integer local variable number 2 → SURVIVED
14. Decremented (a--) integer local variable number 2 → KILLED
15. Decremented (a--) integer local variable number 2 → TIMED_OUT
16. Incremented (++a) integer local variable number 2 → SURVIVED
17. Incremented (++a) integer local variable number 2 → KILLED
18. Decremented (--a) integer local variable number 2 → KILLED
19. Decremented (--a) integer local variable number 2 → KILLED

87

1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → NO_COVERAGE
2. Substituted 0 with 1 → NO_COVERAGE
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → NO_COVERAGE
4. Substituted 0 with 1 → NO_COVERAGE
5. Substituted 0 with -1 → NO_COVERAGE
6. Substituted 0 with 1 → NO_COVERAGE
7. Substituted 0 with -1 → NO_COVERAGE

90
1. replaced boolean return with false for org/jfree/data/DataUtilities::equal →
KILLED
2. Substituted 1 with 0 → KILLED
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
4. Substituted 1 with 0 → KILLED
5. Substituted 1 with -1 → SURVIVED
6. Substituted 1 with -1 → SURVIVED
7. Substituted 1 with 2 → KILLED
8. Substituted 1 with 0 → KILLED

103
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted →
SURVIVED

1. changed conditional boundary → KILLED
2. Substituted 0 with 1 → KILLED
3. negated conditional → KILLED
4. removed conditional - replaced comparison check with false → KILLED
5. removed conditional - replaced comparison check with true → KILLED
6. Negated integer local variable number 2 → KILLED
7. Substituted 0 with 1 → KILLED
8. Substituted 0 with -1 → KILLED
9. Substituted 0 with 1 → KILLED
105
10. Substituted 0 with -1 → KILLED
11. Less than to less or equal → KILLED
12. Less than to greater than → KILLED
13. Less than to greater or equal → KILLED
14. Less than to equal → KILLED
15. Less than to not equal → SURVIVED
16. Incremented (a++) integer local variable number 2 → KILLED
17. Decremented (a--) integer local variable number 2 → KILLED
18. Incremented (++a) integer local variable number 2 → KILLED
19. Decremented (--a) integer local variable number 2 → KILLED

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → SURVIVED
4. Negated integer local variable number 2 → KILLED
106
5. equal to not equal → KILLED
6. Incremented (a++) integer local variable number 2 → KILLED
7. Decremented (a--) integer local variable number 2 → KILLED
8. Incremented (++a) integer local variable number 2 → KILLED
9. Decremented (--a) integer local variable number 2 → KILLED

1. Negated integer local variable number 2 → KILLED
2. Incremented (a++) integer local variable number 2 → KILLED
107
3. Decremented (a--) integer local variable number 2 → KILLED
4. Incremented (++a) integer local variable number 2 → KILLED
5. Decremented (--a) integer local variable number 2 → KILLED

1. Substituted 0 with 1 → KILLED
2. Substituted 0 with 1 → KILLED
3. removed call to java/lang/System::arraycopy → KILLED
4. Negated integer local variable number 2 → KILLED
5. Negated integer local variable number 2 → KILLED
6. Substituted 0 with 1 → KILLED
7. Substituted 0 with 1 → KILLED
8. Substituted 0 with -1 → KILLED
9. Substituted 0 with -1 → KILLED
10. Substituted 0 with 1 → KILLED
108
11. Substituted 0 with 1 → KILLED
12. Substituted 0 with -1 → KILLED
13. Substituted 0 with -1 → KILLED
14. Incremented (a++) integer local variable number 2 → KILLED
15. Incremented (a++) integer local variable number 2 → KILLED
16. Decremented (a--) integer local variable number 2 → KILLED
17. Decremented (a--) integer local variable number 2 → KILLED
18. Incremented (++a) integer local variable number 2 → KILLED
19. Incremented (++a) integer local variable number 2 → KILLED
20. Decremented (--a) integer local variable number 2 → KILLED
21. Decremented (--a) integer local variable number 2 → KILLED

109   1. Negated integer local variable number 2 → KILLED
        2. Incremented (a++) integer local variable number 2 → KILLED
        3. Decremented (a--) integer local variable number 2 → TIMED_OUT
        4. Incremented (++a) integer local variable number 2 → KILLED
        5. Decremented (--a) integer local variable number 2 → KILLED

112   1. replaced return value with null for org/jfree/data/DataUtilities::clone → KILLED
        2. mutated return of Object value for org/jfree/data/DataUtilities::clone to (if (x != null) null else throw new RuntimeException) → KILLED

125   1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

126   1. Substituted 0.0 with 1.0 → KILLED
        2. Substituted 0.0 with 1.0 → KILLED
        3. Substituted 0.0 with -1.0 → KILLED
        4. Substituted 0.0 with 1.0 → KILLED
        5. Substituted 0.0 with -1.0 → KILLED

127   1. removed call to org/jfree/data/Values2D::getRowCount → KILLED

128   1. changed conditional boundary → KILLED
        2. Changed increment from 1 to -1 → KILLED
        3. Substituted 0 with 1 → KILLED
        4. negated conditional → KILLED
        5. removed conditional - replaced comparison check with false → KILLED
        6. removed conditional - replaced comparison check with true → KILLED
        7. Negated integer local variable number 5 → KILLED
        8. Negated integer local variable number 4 → KILLED
        9. Substituted 0 with 1 → KILLED
        10. Substituted 0 with -1 → KILLED
        11. Substituted 0 with 1 → KILLED
        12. Substituted 0 with -1 → KILLED
        13. Less than to less or equal → KILLED
        14. Less than to greater than → KILLED
        15. Less than to greater or equal → KILLED
        16. Less than to equal → KILLED
        17. Less than to not equal → SURVIVED
        18. Incremented (a++) integer local variable number 5 → KILLED
        19. Incremented (a++) integer local variable number 4 → KILLED
        20. Decremented (a--) integer local variable number 5 → KILLED
        21. Decremented (a--) integer local variable number 4 → KILLED
        22. Incremented (++a) integer local variable number 5 → KILLED
        23. Incremented (++a) integer local variable number 4 → KILLED
        24. Decremented (--a) integer local variable number 5 → KILLED
        25. Decremented (--a) integer local variable number 4 → KILLED

129   1. removed call to org/jfree/data/Values2D::getValue → KILLED
        2. Negated integer local variable number 5 → KILLED
        3. Negated integer local variable number 1 → KILLED
        4. Incremented (a++) integer local variable number 5 → KILLED
        5. Incremented (a++) integer local variable number 1 → KILLED
        6. Decremented (a--) integer local variable number 5 → KILLED
        7. Decremented (a--) integer local variable number 1 → KILLED
        8. Incremented (++a) integer local variable number 5 → KILLED
        9. Incremented (++a) integer local variable number 1 → KILLED
        10. Decremented (--a) integer local variable number 5 → KILLED
        11. Decremented (--a) integer local variable number 1 → KILLED

130   1. negated conditional → KILLED
        2. removed conditional - replaced equality check with false → KILLED
        3. removed conditional - replaced equality check with true → SURVIVED
        4. equal to not equal → KILLED

131   1. Replaced double addition with subtraction → KILLED
        2. removed call to java/lang/Number::doubleValue → KILLED
        3. Negated double local variable number 2 → KILLED
        4. Replaced double operation with first member → KILLED
        5. Replaced double operation by second member → KILLED
        6. Replaced double addition with subtraction → KILLED
        7. Replaced double addition with multiplication → KILLED
        8. Replaced double addition with division → KILLED
        9. Replaced double addition with modulus → KILLED

10. Incremented (a++) double local variable number 2 → SURVIVED
11. Decremented (a--) double local variable number 2 → SURVIVED
12. Incremented (++a) double local variable number 2 → KILLED
13. Decremented (--a) double local variable number 2 → KILLED

<u>134</u>
1. replaced double return with 0.0d for
org/jfree/data/DataUtilities::calculateColumnTotal → KILLED
2. replaced return of double value with -(x + 1) for
org/jfree/data/DataUtilities::calculateColumnTotal → KILLED
3. Negated double local variable number 2 → KILLED
4. Incremented (a++) double local variable number 2 → SURVIVED
5. Decremented (a--) double local variable number 2 → SURVIVED
6. Incremented (++a) double local variable number 2 → KILLED
7. Decremented (--a) double local variable number 2 → KILLED

<u>151</u>
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → NO_COVERAGE

<u>152</u>
1. Substituted 0.0 with 1.0 → NO_COVERAGE
2. Substituted 0.0 with 1.0 → NO_COVERAGE
3. Substituted 0.0 with -1.0 → NO_COVERAGE
4. Substituted 0.0 with 1.0 → NO_COVERAGE
5. Substituted 0.0 with -1.0 → NO_COVERAGE

<u>153</u>
1. removed call to org/jfree/data/Values2D::getRowCount → NO_COVERAGE

<u>154</u>
1. changed conditional boundary → NO_COVERAGE
2. Changed increment from 1 to -1 → NO_COVERAGE
3. Substituted 0 with 1 → NO_COVERAGE
4. negated conditional → NO_COVERAGE
5. removed conditional - replaced comparison check with false → NO_COVERAGE
6. removed conditional - replaced comparison check with true → NO_COVERAGE
7. Negated integer local variable number 6 → NO_COVERAGE
8. Substituted 0 with 1 → NO_COVERAGE
9. Substituted 0 with -1 → NO_COVERAGE
10. Substituted 0 with 1 → NO_COVERAGE
11. Substituted 0 with -1 → NO_COVERAGE
12. Less than to less or equal → NO_COVERAGE
13. Less than to greater than → NO_COVERAGE
14. Less than to greater or equal → NO_COVERAGE
15. Less than to equal → NO_COVERAGE
16. Less than to not equal → NO_COVERAGE
17. Incremented (a++) integer local variable number 6 → NO_COVERAGE
18. Decremented (a--) integer local variable number 6 → NO_COVERAGE
19. Incremented (++a) integer local variable number 6 → NO_COVERAGE
20. Decremented (--a) integer local variable number 6 → NO_COVERAGE

<u>155</u>
1. Negated integer local variable number 6 → NO_COVERAGE
2. Negated integer array field → NO_COVERAGE
3. Incremented (a++) integer local variable number 6 → NO_COVERAGE
4. Incremented (a++) integer array field → NO_COVERAGE
5. Decremented (a--) integer local variable number 6 → NO_COVERAGE
6. Decremented (a--) integer array field → NO_COVERAGE
7. Incremented (++a) integer local variable number 6 → NO_COVERAGE
8. Incremented (++a) integer array field → NO_COVERAGE
9. Decremented (--a) integer local variable number 6 → NO_COVERAGE
10. Decremented (--a) integer array field → NO_COVERAGE

<u>156</u>
1. changed conditional boundary → NO_COVERAGE
2. negated conditional → NO_COVERAGE
3. removed conditional - replaced comparison check with false → NO_COVERAGE
4. removed conditional - replaced comparison check with true → NO_COVERAGE
5. Negated integer local variable number 7 → NO_COVERAGE
6. Negated integer local variable number 5 → NO_COVERAGE
7. greater or equal to less than → NO_COVERAGE
8. greater or equal to less or equal → NO_COVERAGE
9. greater or equal to greater than → NO_COVERAGE
10. greater or equal to equal → NO_COVERAGE
11. greater or equal to not equal → NO_COVERAGE
12. Incremented (a++) integer local variable number 7 → NO_COVERAGE
13. Incremented (a++) integer local variable number 5 → NO_COVERAGE
14. Decremented (a--) integer local variable number 7 → NO_COVERAGE

15. Decremented (a--) integer local variable number 5 → NO_COVERAGE
16. Incremented (++a) integer local variable number 7 → NO_COVERAGE
17. Incremented (++a) integer local variable number 5 → NO_COVERAGE
18. Decremented (--a) integer local variable number 7 → NO_COVERAGE
19. Decremented (--a) integer local variable number 5 → NO_COVERAGE

157
1. removed call to org/jfree/data/Values2D::getValue → NO_COVERAGE
2. Negated integer local variable number 7 → NO_COVERAGE
3. Negated integer local variable number 1 → NO_COVERAGE
4. Incremented (a++) integer local variable number 7 → NO_COVERAGE
5. Incremented (a++) integer local variable number 1 → NO_COVERAGE
6. Decremented (a--) integer local variable number 7 → NO_COVERAGE
7. Decremented (a--) integer local variable number 1 → NO_COVERAGE
8. Incremented (++a) integer local variable number 7 → NO_COVERAGE
9. Incremented (++a) integer local variable number 1 → NO_COVERAGE
10. Decremented (--a) integer local variable number 7 → NO_COVERAGE
11. Decremented (--a) integer local variable number 1 → NO_COVERAGE

158
1. negated conditional → NO_COVERAGE
2. removed conditional - replaced equality check with false → NO_COVERAGE
3. removed conditional - replaced equality check with true → NO_COVERAGE
4. equal to not equal → NO_COVERAGE

159
1. Replaced double addition with subtraction → NO_COVERAGE
2. removed call to java/lang/Number::doubleValue → NO_COVERAGE
3. Negated double local variable number 3 → NO_COVERAGE
4. Replaced double operation with first member → NO_COVERAGE
5. Replaced double operation by second member → NO_COVERAGE
6. Replaced double addition with subtraction → NO_COVERAGE
7. Replaced double addition with multiplication → NO_COVERAGE
8. Replaced double addition with division → NO_COVERAGE
9. Replaced double addition with modulus → NO_COVERAGE
10. Incremented (a++) double local variable number 3 → NO_COVERAGE
11. Decremented (a--) double local variable number 3 → NO_COVERAGE
12. Incremented (++a) double local variable number 3 → NO_COVERAGE
13. Decremented (--a) double local variable number 3 → NO_COVERAGE

163
1. replaced double return with 0.0d for org/jfree/data/DataUtilities::calculateColumnTotal → NO_COVERAGE
2. replaced return of double value with -(x + 1) for org/jfree/data/DataUtilities::calculateColumnTotal → NO_COVERAGE
3. Negated double local variable number 3 → NO_COVERAGE
4. Incremented (a++) double local variable number 3 → NO_COVERAGE
5. Decremented (a--) double local variable number 3 → NO_COVERAGE
6. Incremented (++a) double local variable number 3 → NO_COVERAGE
7. Decremented (--a) double local variable number 3 → NO_COVERAGE

176
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

177
1. Substituted 0.0 with 1.0 → KILLED
2. Substituted 0.0 with 1.0 → KILLED
3. Substituted 0.0 with -1.0 → KILLED
4. Substituted 0.0 with 1.0 → KILLED
5. Substituted 0.0 with -1.0 → KILLED

178
1. removed call to org/jfree/data/Values2D::getColumnCount → KILLED

179
1. changed conditional boundary → KILLED
2. Changed increment from 1 to -1 → KILLED
3. Substituted 0 with 1 → KILLED
4. negated conditional → KILLED
5. removed conditional - replaced comparison check with false → KILLED
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 5 → KILLED
8. Negated integer local variable number 4 → KILLED
9. Substituted 0 with 1 → KILLED
10. Substituted 0 with -1 → KILLED
11. Substituted 0 with 1 → KILLED
12. Substituted 0 with -1 → KILLED
13. Less than to less or equal → KILLED
14. Less than to greater than → KILLED
15. Less than to greater or equal → KILLED
16. Less than to equal → KILLED

17. Less than to not equal → SURVIVED
18. Incremented (a++) integer local variable number 5 → KILLED
19. Incremented (a++) integer local variable number 4 → KILLED
20. Decremented (a--) integer local variable number 5 → KILLED
21. Decremented (a--) integer local variable number 4 → KILLED
22. Incremented (++a) integer local variable number 5 → KILLED
23. Incremented (++a) integer local variable number 4 → KILLED
24. Decremented (--a) integer local variable number 5 → KILLED
25. Decremented (--a) integer local variable number 4 → KILLED

180
1. removed call to org/jfree/data/Values2D::getValue → KILLED
2. Negated integer local variable number 1 → SURVIVED
3. Negated integer local variable number 5 → KILLED
4. Incremented (a++) integer local variable number 1 → KILLED
5. Incremented (a++) integer local variable number 5 → KILLED
6. Decremented (a--) integer local variable number 1 → KILLED
7. Decremented (a--) integer local variable number 5 → KILLED
8. Incremented (++a) integer local variable number 1 → KILLED
9. Incremented (++a) integer local variable number 5 → KILLED
10. Decremented (--a) integer local variable number 1 → KILLED
11. Decremented (--a) integer local variable number 5 → KILLED

181
1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → SURVIVED
4. equal to not equal → KILLED

182
1. Replaced double addition with subtraction → KILLED
2. removed call to java/lang/Number::doubleValue → KILLED
3. Negated double local variable number 2 → KILLED
4. Replaced double operation with first member → KILLED
5. Replaced double operation by second member → KILLED
6. Replaced double addition with subtraction → KILLED
7. Replaced double addition with multiplication → KILLED
8. Replaced double addition with division → KILLED
9. Replaced double addition with modulus → KILLED
10. Incremented (a++) double local variable number 2 → SURVIVED
11. Decremented (a--) double local variable number 2 → SURVIVED
12. Incremented (++a) double local variable number 2 → KILLED
13. Decremented (--a) double local variable number 2 → KILLED

185
1. replaced double return with 0.0d for
org/jfree/data/DataUtilities::calculateRowTotal → KILLED
2. replaced return of double value with -(x + 1) for
org/jfree/data/DataUtilities::calculateRowTotal → KILLED
3. Negated double local variable number 2 → KILLED
4. Incremented (a++) double local variable number 2 → SURVIVED
5. Decremented (a--) double local variable number 2 → SURVIVED
6. Incremented (++a) double local variable number 2 → KILLED
7. Decremented (--a) double local variable number 2 → KILLED

202
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted →
NO_COVERAGE

203
1. Substituted 0.0 with 1.0 → NO_COVERAGE
2. Substituted 0.0 with 1.0 → NO_COVERAGE
3. Substituted 0.0 with -1.0 → NO_COVERAGE
4. Substituted 0.0 with 1.0 → NO_COVERAGE
5. Substituted 0.0 with -1.0 → NO_COVERAGE

204
1. removed call to org/jfree/data/Values2D::getColumnCount → NO_COVERAGE

205
1. changed conditional boundary → NO_COVERAGE
2. Changed increment from 1 to -1 → NO_COVERAGE
3. Substituted 0 with 1 → NO_COVERAGE
4. negated conditional → NO_COVERAGE
5. removed conditional - replaced comparison check with false → NO_COVERAGE
6. removed conditional - replaced comparison check with true → NO_COVERAGE
7. Negated integer local variable number 6 → NO_COVERAGE
8. Substituted 0 with 1 → NO_COVERAGE
9. Substituted 0 with -1 → NO_COVERAGE
10. Substituted 0 with 1 → NO_COVERAGE
11. Substituted 0 with -1 → NO_COVERAGE

```
        12. Less than to less or equal → NO_COVERAGE
        13. Less than to greater than → NO_COVERAGE
        14. Less than to greater or equal → NO_COVERAGE
        15. Less than to equal → NO_COVERAGE
        16. Less than to not equal → NO_COVERAGE
        17. Incremented (a++) integer local variable number 6 → NO_COVERAGE
        18. Decremented (a--) integer local variable number 6 → NO_COVERAGE
        19. Incremented (++a) integer local variable number 6 → NO_COVERAGE
        20. Decremented (--a) integer local variable number 6 → NO_COVERAGE

        1. Negated integer local variable number 6 → NO_COVERAGE
        2. Negated integer array field → NO_COVERAGE
        3. Incremented (a++) integer local variable number 6 → NO_COVERAGE
        4. Incremented (a++) integer array field → NO_COVERAGE
206     5. Decremented (a--) integer local variable number 6 → NO_COVERAGE
        6. Decremented (a--) integer array field → NO_COVERAGE
        7. Incremented (++a) integer local variable number 6 → NO_COVERAGE
        8. Incremented (++a) integer array field → NO_COVERAGE
        9. Decremented (--a) integer local variable number 6 → NO_COVERAGE
        10. Decremented (--a) integer array field → NO_COVERAGE

        1. changed conditional boundary → NO_COVERAGE
        2. negated conditional → NO_COVERAGE
        3. removed conditional - replaced comparison check with false → NO_COVERAGE
        4. removed conditional - replaced comparison check with true → NO_COVERAGE
        5. Negated integer local variable number 7 → NO_COVERAGE
        6. Negated integer local variable number 5 → NO_COVERAGE
        7. greater or equal to less than → NO_COVERAGE
        8. greater or equal to less or equal → NO_COVERAGE
        9. greater or equal to greater than → NO_COVERAGE
207     10. greater or equal to equal → NO_COVERAGE
        11. greater or equal to not equal → NO_COVERAGE
        12. Incremented (a++) integer local variable number 7 → NO_COVERAGE
        13. Incremented (a++) integer local variable number 5 → NO_COVERAGE
        14. Decremented (a--) integer local variable number 7 → NO_COVERAGE
        15. Decremented (a--) integer local variable number 5 → NO_COVERAGE
        16. Incremented (++a) integer local variable number 7 → NO_COVERAGE
        17. Incremented (++a) integer local variable number 5 → NO_COVERAGE
        18. Decremented (--a) integer local variable number 7 → NO_COVERAGE
        19. Decremented (--a) integer local variable number 5 → NO_COVERAGE

        1. removed call to org/jfree/data/Values2D::getValue → NO_COVERAGE
        2. Negated integer local variable number 1 → NO_COVERAGE
        3. Negated integer local variable number 7 → NO_COVERAGE
        4. Incremented (a++) integer local variable number 1 → NO_COVERAGE
        5. Incremented (a++) integer local variable number 7 → NO_COVERAGE
208     6. Decremented (a--) integer local variable number 1 → NO_COVERAGE
        7. Decremented (a--) integer local variable number 7 → NO_COVERAGE
        8. Incremented (++a) integer local variable number 1 → NO_COVERAGE
        9. Incremented (++a) integer local variable number 7 → NO_COVERAGE
        10. Decremented (--a) integer local variable number 1 → NO_COVERAGE
        11. Decremented (--a) integer local variable number 7 → NO_COVERAGE

        1. negated conditional → NO_COVERAGE
        2. removed conditional - replaced equality check with false → NO_COVERAGE
209     3. removed conditional - replaced equality check with true → NO_COVERAGE
        4. equal to not equal → NO_COVERAGE

210     1. Replaced double addition with subtraction → NO_COVERAGE
        2. removed call to java/lang/Number::doubleValue → NO_COVERAGE
        3. Negated double local variable number 3 → NO_COVERAGE
        4. Replaced double operation with first member → NO_COVERAGE
        5. Replaced double operation by second member → NO_COVERAGE
        6. Replaced double addition with subtraction → NO_COVERAGE
        7. Replaced double addition with multiplication → NO_COVERAGE
        8. Replaced double addition with division → NO_COVERAGE
        9. Replaced double addition with modulus → NO_COVERAGE
        10. Incremented (a++) double local variable number 3 → NO_COVERAGE
        11. Decremented (a--) double local variable number 3 → NO_COVERAGE
        12. Incremented (++a) double local variable number 3 → NO_COVERAGE
```

13. Decremented (--a) double local variable number 3 → NO_COVERAGE

214
1. replaced double return with 0.0d for
org/jfree/data/DataUtilities::calculateRowTotal → NO_COVERAGE
2. replaced return of double value with -(x + 1) for
org/jfree/data/DataUtilities::calculateRowTotal → NO_COVERAGE
3. Negated double local variable number 3 → NO_COVERAGE
4. Incremented (a++) double local variable number 3 → NO_COVERAGE
5. Decremented (a--) double local variable number 3 → NO_COVERAGE
6. Incremented (++a) double local variable number 3 → NO_COVERAGE
7. Decremented (--a) double local variable number 3 → NO_COVERAGE

226
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

228
1. changed conditional boundary → KILLED
2. Substituted 0 with 1 → KILLED
3. negated conditional → KILLED
4. removed conditional - replaced comparison check with false → KILLED
5. removed conditional - replaced comparison check with true → KILLED
6. Negated integer local variable number 2 → KILLED
7. Substituted 0 with 1 → KILLED
8. Substituted 0 with -1 → KILLED
9. Substituted 0 with 1 → KILLED
10. Substituted 0 with -1 → KILLED
11. Less than to less or equal → KILLED
12. Less than to greater than → KILLED
13. Less than to greater or equal → KILLED
14. Less than to equal → KILLED
15. Less than to not equal → SURVIVED
16. Incremented (a++) integer local variable number 2 → KILLED
17. Decremented (a--) integer local variable number 2 → KILLED
18. Incremented (++a) integer local variable number 2 → KILLED
19. Decremented (--a) integer local variable number 2 → KILLED

229
1. removed call to java/lang/Double::<init> → KILLED
2. Negated integer local variable number 2 → KILLED
3. Negated integer local variable number 2 → KILLED
4. Negated double array field → KILLED
5. Incremented (a++) integer local variable number 2 → KILLED
6. Incremented (a++) integer local variable number 2 → KILLED
7. Incremented (a++) double array field → SURVIVED
8. Decremented (a--) integer local variable number 2 → KILLED
9. Decremented (a--) integer local variable number 2 → TIMED_OUT
10. Decremented (a--) double array field → SURVIVED
11. Incremented (++a) integer local variable number 2 → KILLED
12. Incremented (++a) integer local variable number 2 → KILLED
13. Incremented (++a) double array field → KILLED
14. Decremented (--a) integer local variable number 2 → KILLED
15. Decremented (--a) integer local variable number 2 → KILLED
16. Decremented (--a) double array field → KILLED

231
1. replaced return value with null for
org/jfree/data/DataUtilities::createNumberArray → KILLED
2. mutated return of Object value for
org/jfree/data/DataUtilities::createNumberArray to (if (x != null) null else
throw new RuntimeException) → KILLED

243
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted →
SURVIVED

245
1. Negated integer local variable number 1 → KILLED
2. Incremented (a++) integer local variable number 1 → SURVIVED
3. Decremented (a--) integer local variable number 1 → SURVIVED
4. Incremented (++a) integer local variable number 1 → SURVIVED
5. Decremented (--a) integer local variable number 1 → SURVIVED

246
1. changed conditional boundary → SURVIVED
2. Changed increment from 1 to -1 → KILLED
3. Substituted 0 with 1 → SURVIVED
4. negated conditional → KILLED
5. removed conditional - replaced comparison check with false → SURVIVED
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 3 → SURVIVED

8. Negated integer local variable number 1 → KILLED
9. Substituted 0 with 1 → SURVIVED
10. Substituted 0 with -1 → KILLED
11. Substituted 0 with 1 → SURVIVED
12. Substituted 0 with -1 → KILLED
13. Less than to less or equal → SURVIVED
14. Less than to greater than → KILLED
15. Less than to greater or equal → KILLED
16. Less than to equal → KILLED
17. Less than to not equal → SURVIVED
18. Incremented (a++) integer local variable number 3 → SURVIVED
19. Incremented (a++) integer local variable number 1 → SURVIVED
20. Decremented (a--) integer local variable number 3 → KILLED
21. Decremented (a--) integer local variable number 1 → SURVIVED
22. Incremented (++a) integer local variable number 3 → SURVIVED
23. Incremented (++a) integer local variable number 1 → SURVIVED
24. Decremented (--a) integer local variable number 3 → KILLED
25. Decremented (--a) integer local variable number 1 → SURVIVED

247
1. removed call to org/jfree/data/DataUtilities::createNumberArray → KILLED
2. Negated integer local variable number 3 → SURVIVED
3. Negated integer local variable number 3 → KILLED
4. Incremented (a++) integer local variable number 3 → SURVIVED
5. Incremented (a++) integer local variable number 3 → KILLED
6. Decremented (a--) integer local variable number 3 → KILLED
7. Decremented (a--) integer local variable number 3 → TIMED_OUT
8. Incremented (++a) integer local variable number 3 → SURVIVED
9. Incremented (++a) integer local variable number 3 → SURVIVED
10. Decremented (--a) integer local variable number 3 → KILLED
11. Decremented (--a) integer local variable number 3 → KILLED

249
1. replaced return value with null for
org/jfree/data/DataUtilities::createNumberArray2D → NO_COVERAGE
2. mutated return of Object value for
org/jfree/data/DataUtilities::createNumberArray2D to (if (x != null) null else
throw new RuntimeException) → NO_COVERAGE

263
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted →
SURVIVED

264
1. removed call to org/jfree/data/DefaultKeyedValues::<init> → KILLED

265
1. Substituted 0.0 with 1.0 → KILLED
2. Substituted 0.0 with 1.0 → KILLED
3. Substituted 0.0 with -1.0 → KILLED
4. Substituted 0.0 with 1.0 → KILLED
5. Substituted 0.0 with -1.0 → KILLED

266
1. changed conditional boundary → KILLED
2. Substituted 0 with 1 → KILLED
3. negated conditional → KILLED
4. removed call to org/jfree/data/KeyedValues::getItemCount → KILLED
5. removed conditional - replaced comparison check with false → KILLED
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 4 → KILLED
8. Substituted 0 with 1 → KILLED
9. Substituted 0 with -1 → KILLED
10. Substituted 0 with 1 → KILLED
11. Substituted 0 with -1 → KILLED
12. Less than to less or equal → KILLED
13. Less than to greater than → KILLED
14. Less than to greater or equal → KILLED
15. Less than to equal → KILLED
16. Less than to not equal → SURVIVED
17. Incremented (a++) integer local variable number 4 → KILLED
18. Decremented (a--) integer local variable number 4 → KILLED
19. Incremented (++a) integer local variable number 4 → KILLED
20. Decremented (--a) integer local variable number 4 → KILLED

267
1. removed call to org/jfree/data/KeyedValues::getValue → KILLED
2. Negated integer local variable number 4 → KILLED
3. Incremented (a++) integer local variable number 4 → KILLED

```
     4. Decremented (a--) integer local variable number 4 → TIMED_OUT
     5. Incremented (++a) integer local variable number 4 → KILLED
     6. Decremented (--a) integer local variable number 4 → KILLED
```

268
```
     1. negated conditional → KILLED
     2. removed conditional - replaced equality check with false → KILLED
     3. removed conditional - replaced equality check with true → SURVIVED
     4. equal to not equal → KILLED
```

269
```
     1. Replaced double addition with subtraction → KILLED
     2. removed call to java/lang/Number::doubleValue → KILLED
     3. Negated double local variable number 2 → KILLED
     4. Replaced double operation with first member → KILLED
     5. Replaced double operation by second member → KILLED
     6. Replaced double addition with subtraction → KILLED
     7. Replaced double addition with multiplication → KILLED
     8. Replaced double addition with division → KILLED
     9. Replaced double addition with modulus → KILLED
     10. Incremented (a++) double local variable number 2 → SURVIVED
     11. Decremented (a--) double local variable number 2 → SURVIVED
     12. Incremented (++a) double local variable number 2 → KILLED
     13. Decremented (--a) double local variable number 2 → KILLED
```

272
```
     1. Substituted 0.0 with 1.0 → KILLED
     2. Substituted 0.0 with 1.0 → KILLED
     3. Substituted 0.0 with -1.0 → KILLED
     4. Substituted 0.0 with 1.0 → KILLED
     5. Substituted 0.0 with -1.0 → KILLED
```

273
```
     1. changed conditional boundary → KILLED
     2. Substituted 0 with 1 → KILLED
     3. negated conditional → KILLED
     4. removed call to org/jfree/data/KeyedValues::getItemCount → KILLED
     5. removed conditional - replaced comparison check with false → KILLED
     6. removed conditional - replaced comparison check with true → KILLED
     7. Negated integer local variable number 8 → KILLED
     8. Substituted 0 with 1 → KILLED
     9. Substituted 0 with -1 → KILLED
     10. Substituted 0 with 1 → KILLED
     11. Substituted 0 with -1 → KILLED
     12. Less than to less or equal → KILLED
     13. Less than to greater than → KILLED
     14. Less than to greater or equal → KILLED
     15. Less than to equal → KILLED
     16. Less than to not equal → SURVIVED
     17. Incremented (a++) integer local variable number 6 → KILLED
     18. Decremented (a--) integer local variable number 6 → KILLED
     19. Incremented (++a) integer local variable number 8 → KILLED
     20. Decremented (--a) integer local variable number 8 → KILLED
```

274
```
     1. removed call to org/jfree/data/KeyedValues::getValue → KILLED
     2. Negated integer local variable number 8 → KILLED
     3. Incremented (a++) integer local variable number 6 → KILLED
     4. Decremented (a--) integer local variable number 6 → KILLED
     5. Incremented (++a) integer local variable number 8 → KILLED
     6. Decremented (--a) integer local variable number 8 → KILLED
```

275
```
     1. negated conditional → KILLED
     2. removed conditional - replaced equality check with false → KILLED
     3. removed conditional - replaced equality check with true → SURVIVED
     4. equal to not equal → KILLED
```

276
```
     1. Replaced double addition with subtraction → KILLED
     2. removed call to java/lang/Number::doubleValue → KILLED
     3. Negated double local variable number 6 → KILLED
     4. Replaced double operation with first member → KILLED
     5. Replaced double operation by second member → KILLED
     6. Replaced double addition with subtraction → KILLED
     7. Replaced double addition with multiplication → KILLED
     8. Replaced double addition with division → KILLED
     9. Replaced double addition with modulus → KILLED
     10. Incremented (a++) double local variable number 4 → SURVIVED
```

```
       11. Decremented (a--) double local variable number 4 → SURVIVED
       12. Incremented (++a) double local variable number 6 → KILLED
       13. Decremented (--a) double local variable number 6 → KILLED

       1. removed call to java/lang/Double::<init> → KILLED
       2. Replaced double division with multiplication → KILLED
       3. removed call to org/jfree/data/KeyedValues::getKey → KILLED
       4. removed call to org/jfree/data/DefaultKeyedValues::addValue → KILLED
       5. Negated integer local variable number 8 → KILLED
       6. Negated double local variable number 6 → KILLED
       7. Negated double local variable number 2 → KILLED
       8. Replaced double operation with first member → KILLED
       9. Replaced double operation by second member → KILLED
       10. Replaced double division with multiplication → KILLED
       11. Replaced double division with modulus → KILLED
       12. Replaced double division with addition → KILLED
278    13. Replaced double division with subtraction → KILLED
       14. Incremented (a++) integer local variable number 6 → KILLED
       15. Incremented (a++) double local variable number 4 → KILLED
       16. Incremented (a++) double local variable number 2 → KILLED
       17. Decremented (a--) integer local variable number 6 → KILLED
       18. Decremented (a--) double local variable number 4 → KILLED
       19. Decremented (a--) double local variable number 2 → KILLED
       20. Incremented (++a) integer local variable number 8 → KILLED
       21. Incremented (++a) double local variable number 6 → KILLED
       22. Incremented (++a) double local variable number 2 → KILLED
       23. Decremented (--a) integer local variable number 8 → KILLED
       24. Decremented (--a) double local variable number 6 → KILLED
       25. Decremented (--a) double local variable number 2 → KILLED

       1. replaced return value with null for
       org/jfree/data/DataUtilities::getCumulativePercentages → KILLED
280    2. mutated return of Object value for
       org/jfree/data/DataUtilities::getCumulativePercentages to ( if (x != null) null
       else throw new RuntimeException ) → KILLED
```

Active mutators

- ABS_MUTATOR
- AOD_1_MUTATOR
- AOD_2_MUTATOR
- AOR_1_MUTATOR
- AOR_2_MUTATOR
- AOR_3_MUTATOR
- AOR_4_MUTATOR
- ARGUMENT_PROPAGATION_MUTATOR
- BOOLEAN_FALSE_RETURN
- BOOLEAN_TRUE_RETURN
- CONDITIONALS_BOUNDARY_MUTATOR
- CONSTRUCTOR_CALL_MUTATOR
- CRCR_1_MUTATOR
- CRCR_2_MUTATOR
- CRCR_3_MUTATOR
- CRCR_4_MUTATOR
- CRCR_5_MUTATOR
- CRCR_6_MUTATOR
- EMPTY_RETURN_VALUES
- EXPERIMENTAL_BIGINTEGER_MUTATOR
- EXPERIMENTAL_MEMBER_VARIABLE_MUTATOR
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_[0-99]
- EXPERIMENTAL_SWITCH_MUTATOR
- INCREMENTS_MUTATOR
- INLINE_CONSTANT_MUTATOR
- INVERT_NEGS_MUTATOR
- MATH_MUTATOR
- NAKED_RECEIVER
- NEGATE_CONDITIONALS_MUTATOR

- NON_VOID_METHOD_CALL_MUTATOR
- NULL_RETURN_VALUES
- OBBN_1_MUTATOR
- OBBN_2_MUTATOR
- OBBN_3_MUTATOR
- PRIMITIVE_RETURN_VALS_MUTATOR
- REMOVE_CONDITIONALS_EQUAL_ELSE_MUTATOR
- REMOVE_CONDITIONALS_EQUAL_IF_MUTATOR
- REMOVE_CONDITIONALS_ORDER_ELSE_MUTATOR
- REMOVE_CONDITIONALS_ORDER_IF_MUTATOR
- REMOVE_INCREMENTS_MUTATOR
- RETURN_VALS_MUTATOR
- ROR_1_MUTATOR
- ROR_2_MUTATOR
- ROR_3_MUTATOR
- ROR_4_MUTATOR
- ROR_5_MUTATOR
- UOI_1_MUTATOR
- UOI_2_MUTATOR
- UOI_3_MUTATOR
- UOI_4_MUTATOR
- VOID_METHOD_CALL_MUTATOR

Tests examined

- org.jfree.data.test.DataUtilitiesTestUnmutated (109 ms)

Report generated by PIT 1.4.11