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    *
19    * You should have received a copy of the GNU Lesser General Public
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    *
24    * [Oracle and Java are registered trademarks of Oracle and/or its affiliates.
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   4          if (a == null) {
76   19             return (b == null);
77             }
78   4          if (b == null) {
79   7             return false;  // already know 'a' isn't null
80             }
81   8          if (a.length != b.length) {
82   7             return false;
83             }
84   19         for (int i = 0; i < a.length; i++) {
85   19             if (!Arrays.equals(a[i], b[i])) {
86   7                 return false;
87                 }
88             }
89   8          return true;
90         }
91
92         /**
93          * Returns a clone of the specified array.
94          *
95          * @param source  the source array (<code>null</code> not permitted).
96          *
97          * @return A clone of the array.
98          *
99          * @since 1.0.13
100          */
101         public static double[][] clone(double[][] source) {
102  1          ParamChecks.nullNotPermitted(source, "source");
103             double[][] clone = new double[source.length][];
104  19         for (int i = 0; i < source.length; i++) {
105  9              if (source[i] != null) {
106  5                  double[] row = new double[source[i].length];
107  21                 System.arraycopy(source[i], 0, row, 0, source[i].length);
108  5                  clone[i] = row;
109             }
110             }
111  2          return clone;
112         }
113
114         /**
```

```
115        * Returns the total of the values in one column of the supplied data
116        * table.
117        *
118        * @param data  the table of values (<code>null</code> not permitted).
119        * @param column  the column index (zero-based).
120        *
121        * @return The total of the values in the specified column.
122        */
123       public static double calculateColumnTotal(Values2D data, int column) {
124 1         ParamChecks.nullNotPermitted(data, "data");
125 5         double total = 0.0;
126 1         int rowCount = data.getRowCount();
127 25        for (int r = 0; r < rowCount; r++) {
128 11            Number n = data.getValue(r, column);
129 4             if (n != null) {
130 13                total += n.doubleValue();
131               }
132           }
133 7         return total;
134       }
135
136       /**
137        * Returns the total of the values in one column of the supplied data
138        * table by taking only the row numbers in the array into account.
139        *
140        * @param data  the table of values (<code>null</code> not permitted).
141        * @param column  the column index (zero-based).
142        * @param validRows the array with valid rows (zero-based).
143        *
144        * @return The total of the valid values in the specified column.
145        *
146        * @since 1.0.13
147        */
148       public static double calculateColumnTotal(Values2D data, int column,
149               int[] validRows) {
150 1         ParamChecks.nullNotPermitted(data, "data");
151 5         double total = 0.0;
152 1         int rowCount = data.getRowCount();
153 20        for (int v = 0; v < validRows.length; v++) {
154 10            int row = validRows[v];
155 19            if (row < rowCount) {
156 11                Number n = data.getValue(row, column);
157 4                 if (n != null) {
158 13                    total += n.doubleValue();
159                   }
160               }
161           }
162 7         return total;
163       }
164
165       /**
166        * Returns the total of the values in one row of the supplied data
167        * table.
168        *
169        * @param data  the table of values (<code>null</code> not permitted).
170        * @param row  the row index (zero-based).
171        *
172        * @return The total of the values in the specified row.
173        */
```

```
174        public static double calculateRowTotal(Values2D data, int row) {
175 1          ParamChecks.nullNotPermitted(data, "data");
176 5          double total = 0.0;
177 1          int columnCount = data.getColumnCount();
178 25         for (int c = 0; c < columnCount; c++) {
179 11             Number n = data.getValue(row, c);
180 4             if (n != null) {
181 13                 total += n.doubleValue();
182            }
183        }
184 7          return total;
185        }
186
187        /**
188         * Returns the total of the values in one row of the supplied data
189         * table by taking only the column numbers in the array into account.
190         *
191         * @param data  the table of values (<code>null</code> not permitted).
192         * @param row  the row index (zero-based).
193         * @param validCols the array with valid cols (zero-based).
194         *
195         * @return The total of the valid values in the specified row.
196         *
197         * @since 1.0.13
198         */
199        public static double calculateRowTotal(Values2D data, int row,
200                int[] validCols) {
201 1          ParamChecks.nullNotPermitted(data, "data");
202 5          double total = 0.0;
203 1          int colCount = data.getColumnCount();
204 20         for (int v = 0; v < validCols.length; v++) {
205 10             int col = validCols[v];
206 19             if (col < colCount) {
207 11                 Number n = data.getValue(row, col);
208 4                 if (n != null) {
209 13                     total += n.doubleValue();
210                }
211            }
212        }
213 7          return total;
214        }
215
216        /**
217         * Constructs an array of <code>Number</code> objects from an array of
218         * <code>double</code> primitives.
219         *
220         * @param data  the data (<code>null</code> not permitted).
221         *
222         * @return An array of <code>Double</code>.
223         */
224        public static Number[] createNumberArray(double[] data) {
225 1          ParamChecks.nullNotPermitted(data, "data");
226            Number[] result = new Number[data.length];
227 19         for (int i = 0; i < data.length; i++) {
228 16             result[i] = new Double(data[i]);
229        }
230 2          return result;
231        }
232
```

```
233       /**
234        * Constructs an array of arrays of <code>Number</code> objects from a
235        * corresponding structure containing <code>double</code> primitives.
236        *
237        * @param data  the data (<code>null</code> not permitted).
238        *
239        * @return An array of <code>Double</code>.
240        */
241       public static Number[][] createNumberArray2D(double[][] data) {
242 1         ParamChecks.nullNotPermitted(data, "data");
243           int l1 = data.length;
244 5         Number[][] result = new Number[l1][];
245 25        for (int i = 0; i < l1; i++) {
246 11            result[i] = createNumberArray(data[i]);
247           }
248 2         return result;
249       }
250
251       /**
252        * Returns a {@link KeyedValues} instance that contains the cumulative
253        * percentage values for the data in another {@link KeyedValues} instance.
254        * <p>
255        * The percentages are values between 0.0 and 1.0 (where 1.0 = 100%).
256        *
257        * @param data  the data (<code>null</code> not permitted).
258        *
259        * @return The cumulative percentages.
260        */
261       public static KeyedValues getCumulativePercentages(KeyedValues data) {
262 1         ParamChecks.nullNotPermitted(data, "data");
263 1         DefaultKeyedValues result = new DefaultKeyedValues();
264 5         double total = 0.0;
265 20        for (int i = 0; i < data.getItemCount(); i++) {
266 6             Number v = data.getValue(i);
267 4             if (v != null) {
268 13                total = total + v.doubleValue();
269               }
270           }
271 5         double runningTotal = 0.0;
272 20        for (int i = 0; i < data.getItemCount(); i++) {
273 6             Number v = data.getValue(i);
274 4             if (v != null) {
275 13                runningTotal = runningTotal + v.doubleValue();
276               }
277 25            result.addValue(data.getKey(i), new Double(runningTotal / total));
278           }
279 2         return result;
280       }
281
282   }
```

Mutations

75	1. negated conditional → KILLED 2. removed conditional - replaced equality check with false → KILLED 3. removed conditional - replaced equality check with true → KILLED 4. not equal to equal → KILLED
76	1. replaced boolean return with false for org/jfree/data/DataUtilities::equal → KILLED

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

78
1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → KILLED
4. not equal to equal → KILLED

79
1. replaced boolean return with true for org/jfree/data/DataUtilities::equal →
KILLED
2. Substituted 0 with 1 → KILLED
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
4. Substituted 0 with 1 → KILLED
5. Substituted 0 with -1 → KILLED
6. Substituted 0 with 1 → KILLED
7. Substituted 0 with -1 → KILLED

81
1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
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 → KILLED
8. equal to not equal → KILLED

82
1. replaced boolean return with true for org/jfree/data/DataUtilities::equal →
KILLED
2. Substituted 0 with 1 → KILLED
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
4. Substituted 0 with 1 → KILLED
5. Substituted 0 with -1 → KILLED
6. Substituted 0 with 1 → KILLED
7. Substituted 0 with -1 → KILLED

84
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

85
1. negated conditional → KILLED
2. removed call to java/util/Arrays::equals → KILLED
3. removed conditional - replaced equality check with false → KILLED
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 → KILLED
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 → KILLED
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

86
1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → KILLED
2. Substituted 0 with 1 → KILLED
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
4. Substituted 0 with 1 → KILLED
5. Substituted 0 with -1 → KILLED
6. Substituted 0 with 1 → KILLED
7. Substituted 0 with -1 → KILLED

89
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

102
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

104
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

105
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
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

106
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 → KILLED
4. Incremented (++a) integer local variable number 2 → KILLED
5. Decremented (--a) integer local variable number 2 → KILLED

107
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
          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

          1. Negated integer local variable number 2 → KILLED
          2. Incremented (a++) integer local variable number 2 → KILLED
108       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

          1. replaced return value with null for org/jfree/data/DataUtilities::clone →
          KILLED
111       2. mutated return of Object value for org/jfree/data/DataUtilities::clone to
          ( if (x != null) null else throw new RuntimeException ) → KILLED
124       1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

          1. Substituted 0.0 with 1.0 → KILLED
          2. Substituted 0.0 with 1.0 → KILLED
125       3. Substituted 0.0 with -1.0 → KILLED
          4. Substituted 0.0 with 1.0 → KILLED
          5. Substituted 0.0 with -1.0 → KILLED
126       1. removed call to org/jfree/data/Values2D::getRowCount → KILLED

          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
127       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

          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
128       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

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

133
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

150
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

151
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

152
1. removed call to org/jfree/data/Values2D::getRowCount → KILLED

153
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 6 → 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 6 → KILLED
20. Decremented (--a) integer local variable number 6 → KILLED

154
1. Negated integer local variable number 6 → KILLED
2. Negated integer array field → KILLED
3. Incremented (a++) integer local variable number 6 → KILLED
4. Incremented (a++) integer array field → SURVIVED
5. Decremented (a--) integer local variable number 6 → KILLED
6. Decremented (a--) integer array field → SURVIVED
7. Incremented (++a) integer local variable number 6 → KILLED
8. Incremented (++a) integer array field → KILLED
9. Decremented (--a) integer local variable number 6 → KILLED
10. Decremented (--a) integer array field → KILLED

155
1. changed conditional boundary → KILLED
2. negated conditional → KILLED
3. removed conditional - replaced comparison check with false → KILLED
4. removed conditional - replaced comparison check with true → KILLED
5. Negated integer local variable number 7 → KILLED
6. Negated integer local variable number 5 → KILLED
7. greater or equal to less than → KILLED
8. greater or equal to less or equal → KILLED
9. greater or equal to greater than → KILLED
10. greater or equal to equal → KILLED
11. greater or equal to not equal → KILLED
12. Incremented (a++) integer local variable number 7 → KILLED
13. Incremented (a++) integer local variable number 5 → KILLED
14. Decremented (a--) integer local variable number 7 → KILLED
15. Decremented (a--) integer local variable number 5 → KILLED
16. Incremented (++a) integer local variable number 7 → KILLED

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

156
1. removed call to org/jfree/data/Values2D::getValue → KILLED
2. Negated integer local variable number 7 → KILLED
3. Negated integer local variable number 1 → KILLED
4. Incremented (a++) integer local variable number 7 → SURVIVED
5. Incremented (a++) integer local variable number 1 → KILLED
6. Decremented (a--) integer local variable number 7 → SURVIVED
7. Decremented (a--) integer local variable number 1 → KILLED
8. Incremented (++a) integer local variable number 7 → KILLED
9. Incremented (++a) integer local variable number 1 → KILLED
10. Decremented (--a) integer local variable number 7 → KILLED
11. Decremented (--a) integer local variable number 1 → KILLED

157
1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → KILLED
4. equal to not equal → KILLED

158
1. Replaced double addition with subtraction → KILLED
2. removed call to java/lang/Number::doubleValue → KILLED
3. Negated double local variable number 3 → 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 3 → SURVIVED
11. Decremented (a--) double local variable number 3 → SURVIVED
12. Incremented (++a) double local variable number 3 → KILLED
13. Decremented (--a) double local variable number 3 → KILLED

162
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 3 → KILLED
4. Incremented (a++) double local variable number 3 → SURVIVED
5. Decremented (a--) double local variable number 3 → SURVIVED
6. Incremented (++a) double local variable number 3 → KILLED
7. Decremented (--a) double local variable number 3 → KILLED

175
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

176
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

177
1. removed call to org/jfree/data/Values2D::getColumnCount → KILLED

178
1. changed conditional boundary → KILLED
2. Changed increment from 1 to -1 → TIMED_OUT
3. Substituted 0 with 1 → KILLED
4. negated conditional → KILLED
5. removed conditional - replaced comparison check with false → TIMED_OUT
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 5 → TIMED_OUT
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 → TIMED_OUT
20. Decremented (a--) integer local variable number 5 → TIMED_OUT
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 → TIMED_OUT
24. Decremented (--a) integer local variable number 5 → TIMED_OUT
25. Decremented (--a) integer local variable number 4 → KILLED

179
1. removed call to org/jfree/data/Values2D::getValue → KILLED
2. Negated integer local variable number 1 → KILLED
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 → TIMED_OUT
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 → TIMED_OUT

180
1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → KILLED
4. equal to not equal → KILLED

181
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

184
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

201
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted →
SURVIVED

202
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

203
1. removed call to org/jfree/data/Values2D::getColumnCount → KILLED

204
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 6 → 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 6 → KILLED
20. Decremented (--a) integer local variable number 6 → KILLED

205
1. Negated integer local variable number 6 → KILLED
2. Negated integer array field → KILLED
3. Incremented (a++) integer local variable number 6 → KILLED
4. Incremented (a++) integer array field → SURVIVED
5. Decremented (a--) integer local variable number 6 → TIMED_OUT
6. Decremented (a--) integer array field → SURVIVED
7. Incremented (++a) integer local variable number 6 → KILLED

8. Incremented (++a) integer array field → KILLED
9. Decremented (--a) integer local variable number 6 → KILLED
10. Decremented (--a) integer array field → KILLED

206
1. changed conditional boundary → KILLED
2. negated conditional → KILLED
3. removed conditional - replaced comparison check with false → KILLED
4. removed conditional - replaced comparison check with true → KILLED
5. Negated integer local variable number 7 → KILLED
6. Negated integer local variable number 5 → KILLED
7. greater or equal to less than → KILLED
8. greater or equal to less or equal → KILLED
9. greater or equal to greater than → KILLED
10. greater or equal to equal → KILLED
11. greater or equal to not equal → KILLED
12. Incremented (a++) integer local variable number 7 → KILLED
13. Incremented (a++) integer local variable number 5 → KILLED
14. Decremented (a--) integer local variable number 7 → KILLED
15. Decremented (a--) integer local variable number 5 → KILLED
16. Incremented (++a) integer local variable number 7 → KILLED
17. Incremented (++a) integer local variable number 5 → KILLED
18. Decremented (--a) integer local variable number 7 → KILLED
19. Decremented (--a) integer local variable number 5 → KILLED

207
1. removed call to org/jfree/data/Values2D::getValue → KILLED
2. Negated integer local variable number 1 → KILLED
3. Negated integer local variable number 7 → KILLED
4. Incremented (a++) integer local variable number 1 → KILLED
5. Incremented (a++) integer local variable number 7 → SURVIVED
6. Decremented (a--) integer local variable number 1 → KILLED
7. Decremented (a--) integer local variable number 7 → SURVIVED
8. Incremented (++a) integer local variable number 1 → KILLED
9. Incremented (++a) integer local variable number 7 → KILLED
10. Decremented (--a) integer local variable number 1 → KILLED
11. Decremented (--a) integer local variable number 7 → KILLED

208
1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → KILLED
4. equal to not equal → KILLED

209
1. Replaced double addition with subtraction → KILLED
2. removed call to java/lang/Number::doubleValue → KILLED
3. Negated double local variable number 3 → 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 3 → SURVIVED
11. Decremented (a--) double local variable number 3 → SURVIVED
12. Incremented (++a) double local variable number 3 → KILLED
13. Decremented (--a) double local variable number 3 → KILLED

213
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 3 → KILLED
4. Incremented (a++) double local variable number 3 → SURVIVED
5. Decremented (a--) double local variable number 3 → SURVIVED
6. Incremented (++a) double local variable number 3 → KILLED
7. Decremented (--a) double local variable number 3 → KILLED

225
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

227
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

228
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

230
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

242
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

244
1. Negated integer local variable number 1 → KILLED
2. Incremented (a++) integer local variable number 1 → KILLED
3. Decremented (a--) integer local variable number 1 → KILLED
4. Incremented (++a) integer local variable number 1 → KILLED
5. Decremented (--a) integer local variable number 1 → KILLED

245
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 3 → KILLED
8. Negated integer local variable number 1 → 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 3 → KILLED
19. Incremented (a++) integer local variable number 1 → KILLED
20. Decremented (a--) integer local variable number 3 → KILLED
21. Decremented (a--) integer local variable number 1 → KILLED
22. Incremented (++a) integer local variable number 3 → KILLED
23. Incremented (++a) integer local variable number 1 → KILLED
24. Decremented (--a) integer local variable number 3 → KILLED
25. Decremented (--a) integer local variable number 1 → KILLED

246
1. removed call to org/jfree/data/DataUtilities::createNumberArray → KILLED
2. Negated integer local variable number 3 → KILLED
3. Negated integer local variable number 3 → KILLED
4. Incremented (a++) integer local variable number 3 → KILLED
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 → KILLED
9. Incremented (++a) integer local variable number 3 → KILLED
10. Decremented (--a) integer local variable number 3 → KILLED
11. Decremented (--a) integer local variable number 3 → KILLED

248
1. replaced return value with null for
org/jfree/data/DataUtilities::createNumberArray2D → KILLED

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

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

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

264
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

265
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

266
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

267
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

268
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

271
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

272
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 8 → 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

273
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 8 → 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

274
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

275
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 6 → 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

277
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
13. Replaced double division with subtraction → KILLED
14. Incremented (a++) integer local variable number 8 → KILLED
15. Incremented (a++) double local variable number 6 → KILLED
16. Incremented (a++) double local variable number 2 → KILLED
17. Decremented (a--) integer local variable number 6 → TIMED_OUT
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

279
1. replaced return value with null for org/jfree/data/DataUtilities::getCumulativePercentages → KILLED
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.DataUtilitiesCalculateRowTotalTest.testValidInputWithValidColumns (org.jfree.data.test.DataUtilitiesCalculateRowTotalTest) (2 ms)
- org.jfree.data.test.DataUtilitiesGetCumulativePercentagesTest (48 ms)
- org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest.testValidInputWithValidRows (org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest) (0 ms)
- org.jfree.data.test.DataUtilitiesCalculateRowTotalTest.testRowOutOfBounds (org.jfree.data.test.DataUtilitiesCalculateRowTotalTest) (2 ms)
- org.jfree.data.test.DataUtilitiesEqualTest.testUnEqualObjects(org.jfree.data.test.DataUtilitiesEqualTest) (0 ms)
- org.jfree.data.test.DataUtilitiesEqualTest.testUnEqualObjects2(org.jfree.data.test.DataUtilitiesEqualTest) (5 ms)
- org.jfree.data.test.DataUtilitiesEqualTest.testEqualEmptyObjects(org.jfree.data.test.DataUtilitiesEqualTest) (4 ms)
- org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest.testCreateNumberArray2DValidInput (org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest) (2 ms)
- org.jfree.data.test.RangeCloneTest.testNullSource(org.jfree.data.test.RangeCloneTest) (1 ms)
- org.jfree.data.test.DataUtilitiesCalculateRowTotalTest.testValidInput (org.jfree.data.test.DataUtilitiesCalculateRowTotalTest) (4 ms)
- org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest.testNullData (org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest) (0 ms)
- org.jfree.data.test.RangeCloneTest.testEmptySource(org.jfree.data.test.RangeCloneTest) (2 ms)
- org.jfree.data.test.DataUtilitiesCreateNumberArrayTest.testCreateNumberArrayEmptyData (org.jfree.data.test.DataUtilitiesCreateNumberArrayTest) (0 ms)
- org.jfree.data.test.DataUtilitiesCalculateRowTotalTest.testValidInputWithInvalidColumns (org.jfree.data.test.DataUtilitiesCalculateRowTotalTest) (1 ms)
- org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest.testCreateNumberArray2DEmptyInput (org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest) (11 ms)
- org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest.testCreateNumberArray2DSingleElementArray (org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest) (2 ms)
- org.jfree.data.test.DataUtilitiesCreateNumberArrayTest.testCreateNumberArrayNullData (org.jfree.data.test.DataUtilitiesCreateNumberArrayTest) (1 ms)

- org.jfree.data.test.DataUtilitiesEqualTest.testEqualObjects(org.jfree.data.test.DataUtilitiesEqualTest) (0 ms)
- org.jfree.data.test.DataUtilitiesCalculateRowTotalTest.testNullData
  (org.jfree.data.test.DataUtilitiesCalculateRowTotalTest) (0 ms)
- org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest.testCreateNumberArray2DNullInput
  (org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest) (4 ms)
- org.jfree.data.test.DataUtilitiesEqualTest.testBothNullObjects(org.jfree.data.test.DataUtilitiesEqualTest) (0 ms)
- org.jfree.data.test.RangeCloneTest.testNonEmptySource(org.jfree.data.test.RangeCloneTest) (9 ms)
- org.jfree.data.test.DataUtilitiesEqualTest.testNullFirstObject(org.jfree.data.test.DataUtilitiesEqualTest) (0 ms)
- org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest.testValidInput
  (org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest) (2 ms)
- org.jfree.data.test.DataUtilitiesEqualTest.testNullSecondObject(org.jfree.data.test.DataUtilitiesEqualTest) (0 ms)
- org.jfree.data.test.DataUtilitiesCalculateRowTotalTest.testInvalidInputWithValidlColumns
  (org.jfree.data.test.DataUtilitiesCalculateRowTotalTest) (1 ms)
- org.jfree.data.test.DataUtilitiesCreateNumberArrayTest.testCreateNumberArray
  (org.jfree.data.test.DataUtilitiesCreateNumberArrayTest) (27 ms)
- org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest.testColumnOutOfBounds
  (org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest) (109 ms)
- org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest.testValidInputWithInvalidRows
  (org.jfree.data.test.DataUtilitiesCalculateColumnTotalTest) (1 ms)
- org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest.testCreateNumberArray2DLargeNumbers
  (org.jfree.data.test.DataUtilitiesCreateNumberArray2DTest) (2 ms)

Report generated by [PIT](#) 1.6.8