

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  *
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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

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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 are 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++) {

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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();

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159         }
160     }
161 }
162 7     return total;
163 }
164
165
166
167 /**
168  * Returns the total of the values in one row of the supplied data
169  * table.
170  *
171  * @param data the table of values (<code>>null</code> not permitted).
172  * @param row the row index (zero-based).
173  *
174  * @return The total of the values in the specified row.
175  */
176 public static double calculateRowTotal(Values2D data, int row) {
177 1     ParamChecks.nullNotPermitted(data, "data");
178 5     double total = 0.0;
179 1     int columnCount = data.getColumnCount();
180 25     for (int c = 0; c < columnCount; c++) {
181 11         Number n = data.getValue(row, c);
182 4         if (n != null) {
183 13             total += n.doubleValue();
184         }
185     }
186 7     return total;
187 }
188
189
190
191
192 /**
193  * Returns the total of the values in one row of the supplied data
194  * table by taking only the column numbers in the array into account.
195  *
196  * @param data the table of values (<code>>null</code> not permitted).
197  * @param row the row index (zero-based).
198  * @param validCols the array with valid cols (zero-based).
199  *
200  * @return The total of the valid values in the specified row.
201  *
202  * @since 1.0.13
203  */
204 public static double calculateRowTotal(Values2D data, int row,
205     int[] validCols) {
206 1     ParamChecks.nullNotPermitted(data, "data");
207 5     double total = 0.0;
208 1     int colCount = data.getColumnCount();
209 20     for (int v = 0; v < validCols.length; v++) {
210 10         int col = validCols[v];
211 19         if (col < colCount) {
212 11             Number n = data.getValue(row, col);

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213 4         if (n != null) {
214 13             total += n.doubleValue();
215         }
216     }
217 }
218 7     return total;
219 }
220
221 /**
222  * Constructs an array of Number objects from an array of
223  * double primitives.
224  *
225  * @param data the data (null not permitted).
226  *
227  * @return An array of Double.
228  */
229 public static Number[] createNumberArray(double[] data) {
230 1     ParamChecks.nullNotPermitted(data, "data");
231     Number[] result = new Number[data.length];
232 19     for (int i = 0; i < data.length; i++) {
233 16         result[i] = new Double(data[i]);
234     }
235 2     return result;
236 }
237
238 /**
239  * Constructs an array of arrays of Number objects from a
240  * corresponding structure containing double primitives.
241  *
242  * @param data the data (null not permitted).
243  *
244  * @return An array of Double.
245  */
246 public static Number[][] createNumberArray2D(double[][] data) {
247 1     ParamChecks.nullNotPermitted(data, "data");
248     int l1 = data.length;
249 5     Number[][] result = new Number[l1][];
250 25     for (int i = 0; i < l1; i++) {
251 11         result[i] = createNumberArray(data[i]);
252     }
253 2     return result;
254 }
255
256 /**
257  * Returns a {@link KeyedValues} instance that contains the cumulative
258  * percentage values for the data in another {@link KeyedValues} instance.
259  * <p>
260  * The percentages are values between 0.0 and 1.0 (where 1.0 = 100%).
261  *
262  * @param data the data (null not permitted).
263  *
264  * @return The cumulative percentages.
265  */
266 // public static KeyedValues getCumulativePercentages(KeyedValues data) {

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267 //      ParamChecks.nullNotPermitted(data, "data");
268 //      DefaultKeyedValues result = new DefaultKeyedValues();
269 //      double total = 0.0;
270 //      for (int i = 0; i < data.getItemCount(); i++) {
271 //          Number v = data.getValue(i);
272 //          if (v != null) {
273 //              total = total + v.doubleValue();
274 //          }
275 //      }
276 //      double runningTotal = 0.0;
277 //      for (int i = 0; i < data.getItemCount(); i++) {
278 //          Number v = data.getValue(i);
279 //          if (v != null) {
280 //              runningTotal = runningTotal + v.doubleValue();
281 //          }
282 //          result.addValue(data.getKey(i), new Double(runningTotal / total));
283 //      }
284 //      return result;
285 //  }
286
287 public static KeyedValues getCumulativePercentages(KeyedValues data) {
288 1     ParamChecks.nullNotPermitted(data, "data");
289 1     DefaultKeyedValues result = new DefaultKeyedValues();
290 5     double total = 0.0;
291 20    for (int i = 0; i < data.getItemCount(); i++) {
292 6        Number v = data.getValue(i);
293 4        if (v != null) {
294 13            total += v.doubleValue();
295        }
296    }
297 5    double runningTotal = 0.0;
298 20    for (int i = 0; i < data.getItemCount(); i++) {
299 6        Number v = data.getValue(i);
300 4        if (v != null) {
301 13            runningTotal += v.doubleValue();
302 24            result.addValue(data.getKey(i), runningTotal / total);
303        }
304    }
305 2    return result;
306 }
307
308 }

```

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
1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → KILLED
- 79
- 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
1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → KILLED
- 82
- 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
1. changed conditional boundary → KILLED
- 2. Substituted 0 with 1 → SURVIVED
 - 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 → SURVIVED
 - 8. Substituted 0 with -1 → KILLED
 - 9. Substituted 0 with 1 → SURVIVED
- 84
- 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 → SURVIVED
 - 17. Decrement (a--) integer local variable number 2 → KILLED
 - 18. Incremented (++a) integer local variable number 2 → SURVIVED
 - 19. Decrement (--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 → KILLED
 14. Decrementd (a--) integer local variable number 2 → KILLED
 15. Decrementd (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. Decrementd (--a) integer local variable number 2 → KILLED
 19. Decrementd (--a) integer local variable number 2 → KILLED
 1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → KILLED
 2. Substituted 0 with 1 → KILLED
 86 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
 1. replaced boolean return with false for org/jfree/data/DataUtilities::equal → KILLED
 2. Substituted 1 with 0 → KILLED
 89 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 → 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
 104 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. Decrementd (a--) integer local variable number 2 → KILLED
 18. Incremented (++a) integer local variable number 2 → KILLED
 19. Decrementd (--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
 105 5. equal to not equal → KILLED
 6. Incremented (a++) integer local variable number 2 → KILLED
 7. Decrementd (a--) integer local variable number 2 → KILLED
 8. Incremented (++a) integer local variable number 2 → KILLED
 9. Decrementd (--a) integer local variable number 2 → KILLED
 1. Negated integer local variable number 2 → KILLED
 2. Incremented (a++) integer local variable number 2 → KILLED
 106 3. Decrementd (a--) integer local variable number 2 → KILLED
 4. Incremented (++a) integer local variable number 2 → KILLED
 5. Decrementd (--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. Decrementd (a--) integer local variable number 2 → KILLED
 17. Decrementd (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. Decrementd (--a) integer local variable number 2 → KILLED
 21. Decrementd (--a) integer local variable number 2 → KILLED
- [108](#)
1. Negated integer local variable number 2 → KILLED
 2. Incremented (a++) integer local variable number 2 → KILLED
 3. Decrementd (a--) integer local variable number 2 → TIMED_OUT
 4. Incremented (++a) integer local variable number 2 → KILLED
 5. Decrementd (--a) integer local variable number 2 → KILLED
- [111](#)
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
- [124](#)
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED
- [125](#)
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
- [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. Decrementd (a--) integer local variable number 5 → KILLED
 21. Decrementd (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. Decrementd (--a) integer local variable number 5 → KILLED
 25. Decrementd (--a) integer local variable number 4 → KILLED
- [128](#)
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 → SURVIVED
 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
	1. negated conditional → KILLED
129	2. removed conditional - replaced equality check with false → KILLED
	3. removed conditional - replaced equality check with true → SURVIVED
	4. equal to not equal → KILLED
	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
130	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
	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
133	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
	1. Substituted 0.0 with 1.0 → KILLED
	2. Substituted 0.0 with 1.0 → KILLED
151	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
	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
153	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 → SURVIVED
	2. Negated integer array field → KILLED
	3. Incremented (a++) integer local variable number 6 → SURVIVED
	4. Incremented (a++) integer array field → SURVIVED
	5. Decremented (a--) integer local variable number 6 → KILLED

6. Decrementd (a--) integer array field → SURVIVED
 7. Incremented (++) integer local variable number 6 → KILLED
 8. Incremented (++) integer array field → KILLED
 9. Decrementd (--a) integer local variable number 6 → KILLED
 10. Decrementd (--a) integer array field → KILLED
 1. changed conditional boundary → SURVIVED
 2. negated conditional → KILLED
 3. removed conditional - replaced comparison check with false → KILLED
 4. removed conditional - replaced comparison check with true → SURVIVED
 5. Negated integer local variable number 7 → SURVIVED
 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 → SURVIVED
 155 10. greater or equal to equal → SURVIVED
 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 → SURVIVED
 14. Decrementd (a--) integer local variable number 7 → KILLED
 15. Decrementd (a--) integer local variable number 5 → SURVIVED
 16. Incremented (++) integer local variable number 7 → KILLED
 17. Incremented (++) integer local variable number 5 → SURVIVED
 18. Decrementd (--a) integer local variable number 7 → KILLED
 19. Decrementd (--a) integer local variable number 5 → KILLED
 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
 156 5. Incremented (a++) integer local variable number 1 → SURVIVED
 6. Decrementd (a--) integer local variable number 7 → SURVIVED
 7. Decrementd (a--) integer local variable number 1 → SURVIVED
 8. Incremented (++) integer local variable number 7 → KILLED
 9. Incremented (++) integer local variable number 1 → SURVIVED
 10. Decrementd (--a) integer local variable number 7 → KILLED
 11. Decrementd (--a) integer local variable number 1 → KILLED
 1. negated conditional → KILLED
 157 2. removed conditional - replaced equality check with false → KILLED
 3. removed conditional - replaced equality check with true → SURVIVED
 4. equal to not equal → KILLED
 1. Replaced double addition with subtraction → KILLED
 2. removed call to java/lang/Number::doubleValue → KILLED
 3. Negated double local variable number 3 → SURVIVED
 4. Replaced double operation with first member → KILLED
 5. Replaced double operation by second member → SURVIVED
 6. Replaced double addition with subtraction → KILLED
 158 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. Decrementd (a--) double local variable number 3 → SURVIVED
 12. Incremented (++) double local variable number 3 → KILLED
 13. Decrementd (--a) double local variable number 3 → KILLED
 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
 162 3. Negated double local variable number 3 → KILLED
 4. Incremented (a++) double local variable number 3 → SURVIVED
 5. Decrementd (a--) double local variable number 3 → SURVIVED
 6. Incremented (++) double local variable number 3 → KILLED
 7. Decrementd (--a) double local variable number 3 → KILLED
 177 1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED
 178 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
179	1. removed call to org/jfree/data/Values2D::getColumnCount → 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
180	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. Decrementd (a--) integer local variable number 5 → KILLED
	21. Decrementd (a--) integer local variable number 4 → KILLED
	22. Incremented (++) integer local variable number 5 → KILLED
	23. Incremented (++) integer local variable number 4 → KILLED
	24. Decrementd (--a) integer local variable number 5 → KILLED
	25. Decrementd (--a) integer local variable number 4 → KILLED
	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
181	6. Decrementd (a--) integer local variable number 1 → KILLED
	7. Decrementd (a--) integer local variable number 5 → KILLED
	8. Incremented (++) integer local variable number 1 → KILLED
	9. Incremented (++) integer local variable number 5 → KILLED
	10. Decrementd (--a) integer local variable number 1 → KILLED
	11. Decrementd (--a) integer local variable number 5 → KILLED
	1. negated conditional → KILLED
182	2. removed conditional - replaced equality check with false → KILLED
	3. removed conditional - replaced equality check with true → SURVIVED
	4. equal to not equal → KILLED
	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
183	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. Decrementd (a--) double local variable number 2 → SURVIVED
	12. Incremented (++) double local variable number 2 → KILLED
	13. Decrementd (--a) double local variable number 2 → KILLED
	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
186	3. Negated double local variable number 2 → KILLED
	4. Incremented (a++) double local variable number 2 → SURVIVED
	5. Decrementd (a--) double local variable number 2 → SURVIVED
	6. Incremented (++) double local variable number 2 → KILLED
	7. Decrementd (--a) double local variable number 2 → KILLED
206	1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

- [207](#)
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
- [208](#)
1. removed call to org/jfree/data/Values2D::getColumnCount → 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 6 → KILLED
 8. Substituted 0 with 1 → KILLED
 9. Substituted 0 with -1 → KILLED
- [209](#)
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. Decrementd (a--) integer local variable number 6 → KILLED
 19. Incremented (++a) integer local variable number 6 → KILLED
 20. Decrementd (--a) integer local variable number 6 → KILLED
- [210](#)
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. Decrementd (a--) integer local variable number 6 → KILLED
 6. Decrementd (a--) integer array field → SURVIVED
 7. Incremented (++a) integer local variable number 6 → KILLED
 8. Incremented (++a) integer array field → KILLED
 9. Decrementd (--a) integer local variable number 6 → KILLED
 10. Decrementd (--a) integer array field → KILLED
1. changed conditional boundary → SURVIVED
 2. negated conditional → KILLED
 3. removed conditional - replaced comparison check with false → KILLED
 4. removed conditional - replaced comparison check with true → SURVIVED
 5. Negated integer local variable number 7 → SURVIVED
 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 → SURVIVED
- [211](#)
10. greater or equal to equal → SURVIVED
 11. greater or equal to not equal → KILLED
 12. Incremented (a++) integer local variable number 7 → SURVIVED
 13. Incremented (a++) integer local variable number 5 → SURVIVED
 14. Decrementd (a--) integer local variable number 7 → KILLED
 15. Decrementd (a--) integer local variable number 5 → KILLED
 16. Incremented (++a) integer local variable number 7 → KILLED
 17. Incremented (++a) integer local variable number 5 → SURVIVED
 18. Decrementd (--a) integer local variable number 7 → KILLED
 19. Decrementd (--a) integer local variable number 5 → KILLED
- [212](#)
1. removed call to org/jfree/data/Values2D::getValue → KILLED
 2. Negated integer local variable number 1 → SURVIVED
 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. Decrementd (a--) integer local variable number 1 → KILLED
 7. Decrementd (a--) integer local variable number 7 → SURVIVED
 8. Incremented (++a) integer local variable number 1 → KILLED
 9. Incremented (++a) integer local variable number 7 → SURVIVED
 10. Decrementd (--a) integer local variable number 1 → KILLED
 11. Decrementd (--a) integer local variable number 7 → KILLED

- [213](#)
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
 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
- [214](#)
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. Decrementd (a--) double local variable number 3 → SURVIVED
 12. Incremented (++a) double local variable number 3 → KILLED
 13. Decrementd (--a) double local variable number 3 → KILLED
 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
- [218](#)
3. Negated double local variable number 3 → KILLED
 4. Incremented (a++) double local variable number 3 → SURVIVED
 5. Decrementd (a--) double local variable number 3 → SURVIVED
 6. Incremented (++a) double local variable number 3 → KILLED
 7. Decrementd (--a) double local variable number 3 → KILLED
- [230](#)
1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED
 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
- [232](#)
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. Decrementd (a--) integer local variable number 2 → KILLED
 18. Incremented (++a) integer local variable number 2 → KILLED
 19. Decrementd (--a) integer local variable number 2 → KILLED
 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
- [233](#)
8. Decrementd (a--) integer local variable number 2 → KILLED
 9. Decrementd (a--) integer local variable number 2 → TIMED_OUT
 10. Decrementd (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. Decrementd (--a) integer local variable number 2 → KILLED
 15. Decrementd (--a) integer local variable number 2 → KILLED
 16. Decrementd (--a) double array field → KILLED
- [235](#)
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

[247](#) 1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

1. Negated integer local variable number 1 → KILLED

[249](#) 2. Incremented (a++) integer local variable number 1 → KILLED

3. Decrementd (a--) integer local variable number 1 → KILLED

4. Incremented (++) integer local variable number 1 → KILLED

5. Decrementd (--a) integer local variable number 1 → 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 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

[250](#) 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. Decrementd (a--) integer local variable number 3 → KILLED

21. Decrementd (a--) integer local variable number 1 → KILLED

22. Incremented (++) integer local variable number 3 → KILLED

23. Incremented (++) integer local variable number 1 → KILLED

24. Decrementd (--a) integer local variable number 3 → KILLED

25. Decrementd (--a) integer local variable number 1 → KILLED

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

[251](#) 6. Decrementd (a--) integer local variable number 3 → KILLED

7. Decrementd (a--) integer local variable number 3 → TIMED_OUT

8. Incremented (++) integer local variable number 3 → KILLED

9. Incremented (++) integer local variable number 3 → KILLED

10. Decrementd (--a) integer local variable number 3 → KILLED

11. Decrementd (--a) integer local variable number 3 → KILLED

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

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

[288](#) 1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

[289](#) 1. removed call to org/jfree/data/DefaultKeyedValues::<init> → KILLED

1. Substituted 0.0 with 1.0 → KILLED

2. Substituted 0.0 with 1.0 → KILLED

[290](#) 3. Substituted 0.0 with -1.0 → KILLED

4. Substituted 0.0 with 1.0 → KILLED

5. Substituted 0.0 with -1.0 → KILLED

[291](#) 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. Decrementd (a--) integer local variable number 4 → KILLED
- 19. Incremented (++a) integer local variable number 4 → KILLED
- 20. Decrementd (--a) integer local variable number 4 → KILLED
- 1. removed call to org/jfree/data/KeyedValues::getValue → KILLED
- 2. Negated integer local variable number 4 → KILLED
- 292 3. Incremented (a++) integer local variable number 4 → KILLED
- 4. Decrementd (a--) integer local variable number 4 → TIMED_OUT
- 5. Incremented (++a) integer local variable number 4 → KILLED
- 6. Decrementd (--a) integer local variable number 4 → KILLED
- 1. negated conditional → KILLED
- 293 2. removed conditional - replaced equality check with false → KILLED
- 3. removed conditional - replaced equality check with true → SURVIVED
- 4. equal to not equal → KILLED
- 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
- 294 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. Decrementd (a--) double local variable number 2 → SURVIVED
- 12. Incremented (++a) double local variable number 2 → KILLED
- 13. Decrementd (--a) double local variable number 2 → KILLED
- 1. Substituted 0.0 with 1.0 → KILLED
- 2. Substituted 0.0 with 1.0 → KILLED
- 297 3. Substituted 0.0 with -1.0 → KILLED
- 4. Substituted 0.0 with 1.0 → KILLED
- 5. Substituted 0.0 with -1.0 → KILLED
- 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
- 298 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. Decrementd (a--) integer local variable number 6 → KILLED
- 19. Incremented (++a) integer local variable number 8 → KILLED
- 20. Decrementd (--a) integer local variable number 6 → KILLED
- 1. removed call to org/jfree/data/KeyedValues::getValue → KILLED
- 2. Negated integer local variable number 8 → KILLED
- 299 3. Incremented (a++) integer local variable number 6 → KILLED
- 4. Decrementd (a--) integer local variable number 6 → KILLED
- 5. Incremented (++a) integer local variable number 8 → KILLED
- 6. Decrementd (--a) integer local variable number 6 → KILLED

300	<ol style="list-style-type: none"> 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 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
301	<ol style="list-style-type: none"> 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. Decrementd (a--) double local variable number 4 → SURVIVED 12. Incremented (++) double local variable number 6 → KILLED 13. Decrementd (--a) double local variable number 4 → KILLED 1. Replaced double division with multiplication → KILLED 2. removed call to org/jfree/data/KeyedValues::getKey → KILLED 3. removed call to org/jfree/data/DefaultKeyedValues::addValue → KILLED 4. Negated integer local variable number 8 → KILLED 5. Negated double local variable number 6 → KILLED 6. Negated double local variable number 2 → KILLED 7. Replaced double operation with first member → KILLED 8. Replaced double operation by second member → KILLED 9. Replaced double division with multiplication → KILLED 10. Replaced double division with modulus → KILLED 11. Replaced double division with addition → KILLED 12. Replaced double division with subtraction → KILLED
302	<ol style="list-style-type: none"> 13. Incremented (a++) integer local variable number 6 → KILLED 14. Incremented (a++) double local variable number 4 → KILLED 15. Incremented (a++) double local variable number 2 → KILLED 16. Decrementd (a--) integer local variable number 6 → TIMED_OUT 17. Decrementd (a--) double local variable number 4 → KILLED 18. Decrementd (a--) double local variable number 2 → KILLED 19. Incremented (++) integer local variable number 8 → KILLED 20. Incremented (++) double local variable number 6 → KILLED 21. Incremented (++) double local variable number 2 → KILLED 22. Decrementd (--a) integer local variable number 6 → KILLED 23. Decrementd (--a) double local variable number 4 → KILLED 24. Decrementd (--a) double local variable number 2 → KILLED
305	<ol style="list-style-type: none"> 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.DataUtilitiesTest.TestgetCumulativePercentages_withNegativeValue (org.jfree.data.DataUtilitiesTest) (11 ms)
- org.jfree.data.DataUtilitiesTest.test3CalculateColumnTotalTwoNeg(org.jfree.data.DataUtilitiesTest) (4 ms)
- org.jfree.data.DataUtilitiesTest.TestEqual_SameLenght_DifferntContent(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.testCreateNumberArray2DNull(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.test1CalculateColumnTotal(org.jfree.data.DataUtilitiesTest) (10 ms)
- org.jfree.data.DataUtilitiesTest.TestgetCumulativePercentages(org.jfree.data.DataUtilitiesTest) (74 ms)
- org.jfree.data.DataUtilitiesTest.test2CalculateColumnTotalNegPos(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.test5CalculateColumnTotalNegativeRow(org.jfree.data.DataUtilitiesTest) (46 ms)
- org.jfree.data.DataUtilitiesTest.Test3CreateNumberArrayNegValues(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.test1CalculateRowTotal(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.Test2CreateNumberArray2DOneElement(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.TestEqual_WITHNULL_B(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.test4CalculateColumnTotalZeroRows(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.Test3CreateNumberArray2DNegElement(org.jfree.data.DataUtilitiesTest) (4 ms)
- org.jfree.data.DataUtilitiesTest.test2CalculateRowTotalNegPosValue(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.Test1CreateNumberArray(org.jfree.data.DataUtilitiesTest) (59 ms)
- org.jfree.data.DataUtilitiesTest.TestEqual(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.TestEqual_WITHNULL_A_BIsNull(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.test4CalculateRowTotalZeroCol(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.Test2CreateNumberArrayOneElement(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.test3CalculateRowTotalTwoNegValue(org.jfree.data.DataUtilitiesTest) (5 ms)
- org.jfree.data.DataUtilitiesTest.test5CalculateRowTotalNegCol(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.test1CalculateRowTotal_WITHCOLUMNARRAY (org.jfree.data.DataUtilitiesTest) (6 ms)
- org.jfree.data.DataUtilitiesTest.Testclone(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.TestgetCumulativePercentages_final_is_one(org.jfree.data.DataUtilitiesTest) (4 ms)

- org.jfree.data.DataUtilitiesTest.testCreateNumberArray1DNull(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.test1CalculateRowTotal_WITHCOLUMNARRAY_DATA2DNULL(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.test1CalculateColumnTotal_WITHROWARRAY(org.jfree.data.DataUtilitiesTest) (5 ms)
- org.jfree.data.DataUtilitiesTest.TestEqual_WITHNULL_A(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.TestCreateNumberArray2D(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.TestEqual_DifferentLenght(org.jfree.data.DataUtilitiesTest) (1 ms)

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