Specification

Copy the program Stats.java to your computer and implement the TBI (To Be Implemented) *stats()* and *checkIfSorted()* methods following the instructions given in their method comment blocks.

The program output must match the following. Note: Every output line that starts with ... is followed by a blank line. {output file}

```
null element

empty array

[0]
...mean: 0.0; median: 0.0; mode: 0; cardinality: 1; range: 0

[1,2]
...mean: 1.5; median: 1.5; mode: modeless; cardinality: 2; range: 1

[1,1]
...mean: 1.0; median: 1.0; mode: 1; cardinality: 2; range: 0

[1,2,3]
...mean: 2.0; median: 2.0; mode: modeless; cardinality: 3; range: 2

[5,5,5,5,5]
...mean: 5.0; median: 5.0; mode: 5; cardinality: 5; range: 0

[0,2,4,5,5,8]
...mean: 4.0; median: 4.5; mode: 5; cardinality: 6; range: 8

[1,5,6,6,6,7,9]
...mean: 5.714285714285714; median: 6.0; mode: 6; cardinality: 7; range: 8

[-7,0,0,3,3,3,4,4]
...mean: 1.25; median: 3.0; mode: 3; cardinality: 8; range: 11

[-2,-2,0,1,1,2,2,2]
...mean: 0.5; median: 1.0; mode: 2; cardinality: 8; range: 4

[-4,-2,-2,3,12,12,42]
...mean: 8.714285714285714; median: 3.0; mode: modeless; cardinality: 7; range: 46
```