```cpp
1  // Problem Set 2, 2024
2
3  #include "ShakerSortableIntVector.h"
4
5  ShakerSortableIntVector::ShakerSortableIntVector(const int aArrayOfIntegers ⇗
   [], size_t aNumberOfElements) :
6      // calls super class constructor
7      SortableIntVector(aArrayOfIntegers, aNumberOfElements)
8  { }
9
10 void ShakerSortableIntVector::sort(Comparable aOrderFunction)
11 {
12     size_t lStart = 0;
13     size_t lEnd = size() - 1;
14
15     // sorts in DECREASING order without a "sorted" flag
16     while (lStart < lEnd)
17     {
18         // forward loop from left to right
19         // bubbles the smallest value to the end of the array
20         for (size_t i = lStart; i < lEnd; i++)
21         {
22             // compares and swaps if the former element is smaller
23             if (!aOrderFunction((*this)[i + 1], (*this)[i]))
24             {
25                 swap(i, i + 1);
26             }
27         }
28
29         // moves the end point back by one
30         lEnd--;
31
32         // backward loop from right to left
33         // bubbles the largest value to the start of the array
34         for (size_t i = lEnd; i > lStart; i--)
35         {
36             // compares and swaps if the latter element is bigger
37             if (!aOrderFunction((*this)[i], (*this)[i - 1]))
38             {
39                 swap(i - 1, i);
40             }
41         }
42
43         // moves the start point ahead by one
44         lStart++;
45     }
46 }
```