MSU CSC 325 Spring 2016
Assn 6. Explain the deceptive "MagicSort" algorithm
Apr. 4, 2016
Due Apr. 12, 11:59pm

The provided code of this assignment correctly sorts a vector of integers. I've called the provided code "Magic Sort" because it has the illusion of execution in O(N) time, but does not actually execute in O(N) time.

Most of the code is quite straightforward and not deceptive. The "tricky part" is isolated to a single line, and understanding that line is essential.

Your answer should include discussion on:

1. Identify the parts of the provided code that are merely for the purpose of printing out the work in progress. Highlight the true, sorting portion of the code.

2. The "freaky" line of code is line 20, which sets an ***iterator*** to a location ***PRIOR*** to the start of the vector. That seems to me as though it ought to throw an exception. *(Perhaps it's valid to **set** an iterator anywhere but that an exception would not occur until you attempt to **use** an invalid iterator.)*

   In spite of its freakiness, the code is valid C++ code and runs without error. Explain how line 20's setting of the iterator works in tandem with the remainder of the provided C++ code to sort correctly.

3. Explain what the execution time actually is, O(_____).

Expected: One page of decent discussion and algorithm analysis
Turn in: To your eccentric or trace folder, an MSWord document named **Assn6**