

# CSC221 – Laboratory #4\*

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In Weiss [1, Chapter 7.6] there is an excellent presentation of the Shellsort. You need to read and study this section carefully. This lab is about the basic Shellsort and one of its improvements.

You are going to implement, test and experimentally analyze the basic version of Shellsort, shown in Figure 7.6 on page 267 of the text, and another variation of it, see Exercise 7.43 on page 310. Your analysis will be a plot of the *time* required to Shellsort a list of size  $n$ . You must use at least 10 different values of  $n$ .

For 80 points maximum, implement and experimentally analyze the basic Shellsort as shown in Figure 7.6.

For a maximum of an additional 20 points, you are to implement, test and experimentally analyze one of the variations of the Shellsort as specified in Exercise 7.43 on page 310.

This lab is due on the last day of class, December 5. You will need to make an appointment to discuss your implementation and analysis when you are prepared to turn in your work.

You certainly may consult with our text book and me freely. You may discuss syntax issues with each other freely. However all worked turned in for a grade must reflect your individual efforts.

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\*Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this document, and I am aware of a trademark claim, the designations have been printed in initial caps, all caps or italics.

## References

- [1] Mrk Allen Weiss. *Data Structures and Algorithm Analysis in C++*. Addison-Wesley, 3rd edition, 2006.