

Fall 2012 Lab Assignment 9

You are to implement a class to take an input `ArrayList` and build from that another `ArrayList` that is a max heap.

You have in the zip file a complete driver program. Note that in this case the driver reads the input file, outputs the input, calls the build method, and then calls a method to check that in fact the new list is a heap. You must implement these methods.

In essence the code for building the heap exists in the textbook in section 7.5.2 on pages 276 and 277. You will want to change this code slightly to deal with a list that consists only of integers and not of records.

However, except for those changes, the code in the text will in fact work.

It is easier to code a heap if you index 1-up instead of the usual 0-up. For that reason I have put in a dummy 99999 value for the zero-th value in the list, and this then shows up nowhere because you never deal with the zero subscript.

In checking that the alleged heap is in fact a max heap, don't forget to check that for a given subscript i , the subscripts $2i$ and $2i + 1$ are still legal subscripts for the list.