For this assignment, you are to complete the ArrayMaxHeap implementation and create a main file which tests it.

Attached are a number of files you will need. Change the name of ArrayMaxHeap.cpp to FMCLArrayMaxHeap.cpp. You are NOT to change any of the other files. The functions that need to be implemented contain // implement this function

Test the program by creating an array of twenty int. Initialize it to contain the numbers 1 to 20 in ascending order. Print it out. Use this array to create a heap and print it out, demonstrating that the array is now a heap. (Note. If you follow the algorithm in the book, the ordering of the heaped array should be identifiable beforehand. Work it out and put it down as a comment. If the order is different, demonstrate that that ordering is also a heap.)

Include pseudocode for all the functions you create whose body is more than 2 lines long.

Extra credit Create a heap sort. For this, pass down a 20 item int array, print it out, sort it, then print out the sorted array. Store it in the same file as the other code.

Upload yourFMCLArrayMaxHeap.cpp to Canvas. It is due 5/3/23 and is worth 20 points.