

Instructions

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In this activity, you need to modify PQ implementation (BinaryHeap.cpp) to make it based on 3-way (3-children) heap tree. To do so, you will need to update swim-up and sink-down functions.

3-way heap is also discussed in the video (21m:30s).

After making required modification, demonstrate your new code with the following operations.

- Add 32 random items to PQ. Each item (integer) will be randomly selected between 0 and 100.
- Show the PQ array. Note that 0th item of the array is always skipped.
- Repeatedly delete max of PQ 5 times showing the PQ array.

Expected output of your program will be similar to

PQ created

75, 72, 68, 73, 67, 65, 61,

Delete 75

73, 72, 68, 65, 67, 65, 61,

Delete 73

72, 67, 68, 65, 67, 65, 61,

Delete 72

.....

Delete ??

....

Delete ??

.....

You can use any code shared on D2L.

Do not include unnecessary headers and functions. Code syntax will be graded.