DSA Problem Sheet

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(Lab Evaluation)

Question

In today's lab, you are being provided with a heap class object **heap** (*refer code*) where the input (loaded in to the **heapArray[]** field in the *heapClass*) is guaranteed to be a max-heap containing at least 10 elements. . Write functions that perform each of the following tasks (note that indexing starts from 0).

Note: Download *Question.cpp* and *input.txt* (sample input) files to begin with.

1. **int getLargest(class heapClass hp):** Returns the largest element in the heap. Note that your implementation is **not supposed to have loops**.
2. **int getThirdLargest(class heapClass hp):** Returns the third largest element in the heap. Note that your implementation is **not supposed to have loops**.
3. **int DeleteSecondLargest(class heapClass hp):** Deletes the second largest element from the heap, re-heapify if required and returns the element that replaces the aforementioned. You may use **void reduceHeapSize()** function to reduce the size of the heap by 1 once you are done with.

You may uncomment the appropriate statements in the main function to test your code.