

CSE220: Data Structures (Lab) Fall 2024

Lab Quiz - 06
Duration: 30 Minutes

Name:	ID:	Section:
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Question 1 [15 Points]

You are given an **array of integers** and values of \mathbf{x} and \mathbf{y} . You need to create a new heap consisting of the numbers between \mathbf{x}^{th} lowest position and \mathbf{y}^{th} lowest position from the array.

Note:

- 1. You need to figure out which heap to use.
- 2. You are not allowed to use any direct sorting, searching on the array.
- 3. You are not allowed to use any built-in functions except len()
- 4. You can assume insert() and swim() functions are already implemented. You have to implement whatever else is needed.

Sample Input:	Sample Output:	
array = [11, 15, 8, 2, 31, 23]	result = [8, 11, 15, 23]	
x = 2		
y = 5		
Explanation:		
When the array is sorted [2, 8, 11, 15, 23, 31]	Here,	
the values are in lowest to highest order. For	x = 2, 2-nd lowest: 8	
each position of n we can say, If:-	y = 5, 5-th lowest: 23	
	N 1 1 4 2 1 1541 4	
n = 1, Position-1: 2 (1-st lowest)	Numbers between 2nd and 5th lowest in	
n = 2, Position-2: 8 (2-nd lowest)	the given array are: 8 , 11 , 15 , 23 .	
	So the new heap will have these values.	
n = 5, Position-5: 23 (5-th lowest)		
n = 6, Position-6: 31 (6-th lowest)		