

Problem 1

1.....

2.....

3.

0	1	2	3	4	5	6
X	12	20	18	23	28	15

- a. increasing order --> **MAX heap**
- b. bottom up construction for heap

0	1	2	3	4	5	6
X	28	23	18	12	20	15

- c. Draw the array after removing each element (the array must be sorted in-place, so **show the complete content of the array at every step**).

0	1	2	3	4	5	6
X	23	20	18	12	15	28
	20	15	18	12	23	28
	18	15	12	20	23	28
	15	12	18	20	23	28
	12	15	18	20	23	28
	12	15	18	20	23	28

Problem 2

3.

BFS: A B C D E F G (using Queue)

DFS: A D F G E C B (using Stack)