Practice Lessons

Nov. 20 2025

1). Max Heap Insertion & Deletion

- According to the pseudo-code in our lectures, please implement the heap insertion and deletion using an array.

  Input:

  the first line: a sequence of integers to be inserted (separated by space)
  the second line: a number specifying how many times the deletion (extract maximum) is called.

  Output:

  the final max heap, in terms of (index, number) pairs.

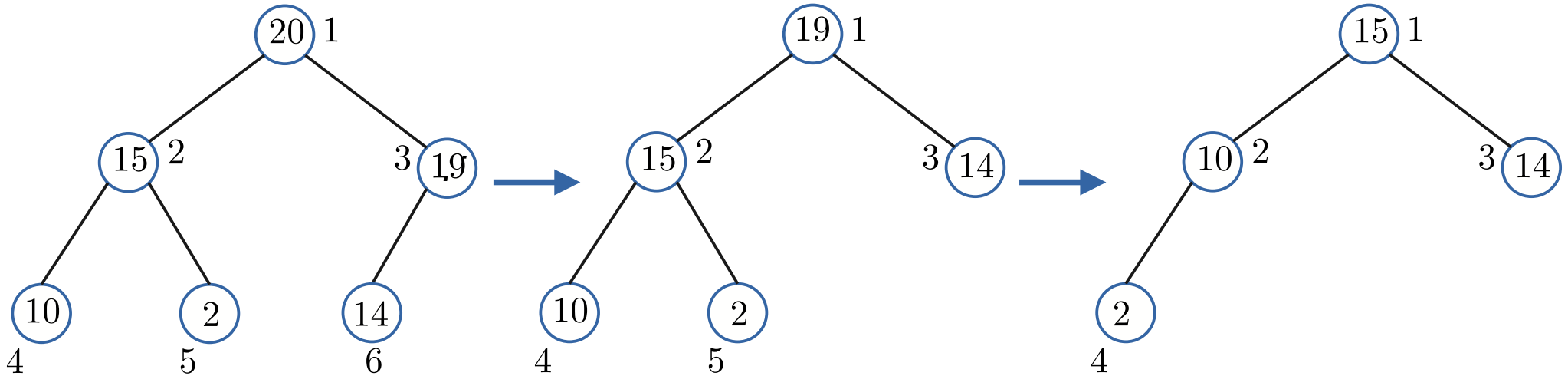
Sample input & output

Input

```
10 15 14 20 2 19
2
```

Output

```
(1, 15) (2, 10) (3, 14) (4, 2)
```



2). BST construction

- **Input:** *n* integers separated by space (first line: n; second line: *n* integers).
- **Output:** the inorder and preorder traversals of the binary search tree in which the nodes are the input integers (without repeated keys).

- Use "modifiedSearch" and "insert" in our lecture to build the BST.

Sample Input & Output

- Sample input:

```
5
30 5 40 80 2
```

- Sample output:

```
2 5 30 40 80
30 5 2 40 80
```