

## DATA STRUCTURES (CSE225) Project 2 Report

A)

```
Please enter numbers : 15 12 13 17 16 18
```

Write the numbers and press enter.

B)

```
Please enter numbers : 15 12 13 17 16 18
1 :15 12 17 13 18 16
2 :15 12 17 13 16 18
3 :15 12 17 18 13 16
4 :15 12 17 18 16 13
5 :15 12 17 16 13 18
6 :15 12 17 16 18 13
7 :15 12 13 17 18 16
8 :15 12 13 17 16 18
9 :15 17 12 18 16 13
10 :15 17 12 18 13 16
11 :15 17 12 16 18 13
12 :15 17 12 16 13 18
13 :15 17 12 13 18 16
14 :15 17 12 13 16 18
15 :15 17 18 12 16 13
16 :15 17 18 12 13 16
17 :15 17 18 16 12 13
18 :15 17 16 12 18 13
19 :15 17 16 12 13 18
20 :15 17 16 18 12 13

Total count of sequence : 20

Tree:
      18
     /
    17
   /  \
  15    16
 /  \
12   13

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Process exited after 0.5745 seconds with return value 0
Press any key to continue . . .
```

After entering numbers, the program finds and prints the sequences. Finally, the program draws the tree. The blue lines here are only symbolically attached to the photo. The program also does not have those lines.

C)

First, if the tree has left and right children, a list is created accordingly. These lists are sent to the function. It is added to the end of the list by finding the possible nodes according to the size of this list. For example, the list {15,12} is sent to the function with the root and the left child of the root. Looking at the children of 15 and 12, possible nodes are sent with a list. Possible nodes are 17 and 13. At the end of the list, the initial list is copied and a node is added to the end. The last thing we have is: {15 12 15 12 17 15 12 13}. Keeping the previous size of this list, I delete the first 2 nodes. This repeats the size of the entered sequence. Finally, the list will be printed until the size.