



Bilkent University
CS202
HW3
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SECTION 3

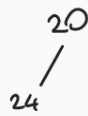
Question 1



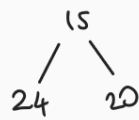
① Insert 24

24

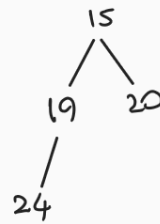
② Insert 20



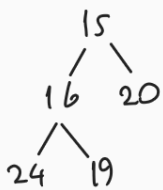
③ Insert 15



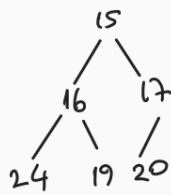
④ Insert



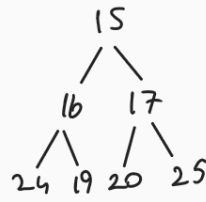
⑤ Insert 16



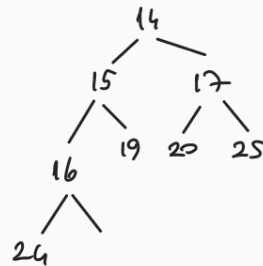
⑥ Insert 17



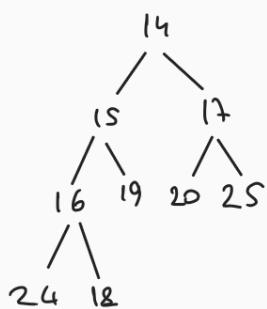
⑦ Insert 25



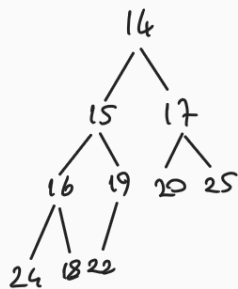
⑧ Insert 14



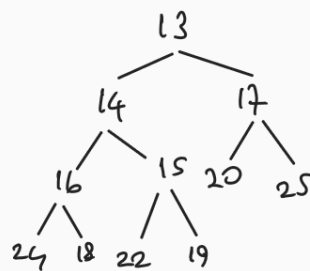
⑨ Insert 18



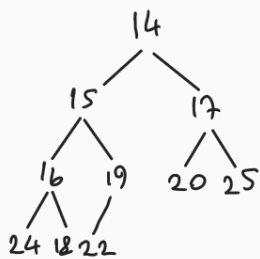
⑩ Insert 22



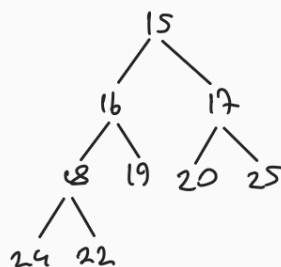
⑪ Insert 13



⑫ Delete min (13)



⑬ Delete min (14)



b) 13th step is the last version

Preorder

15, 16, 18, 24, 22, 19, 17, 20, 25

- So output is not sorted for preorder

InOrder

24, 18, 22, 16, 19, 15, 20, 17, 25

- So output is not sorted for inorder.

PostOrder

24, 22, 18, 19, 16, 20, 25, 17, 15

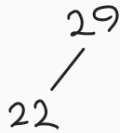
- So output is not sorted for postorder

☞ [29, 22, 19, 23, 18, 20, 27, 16, 15, 17]

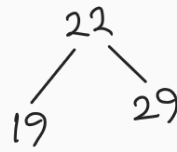
① Insert 29

29

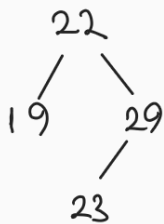
② Insert 22



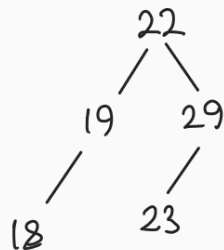
③ Insert 19



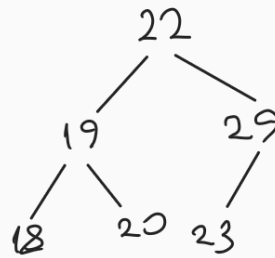
④ Insert 23



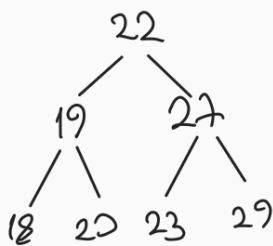
⑤ Insertion 18



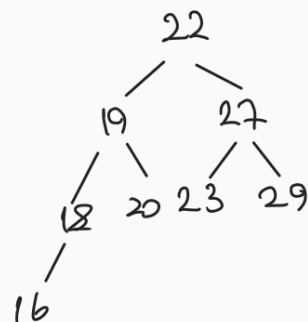
⑥ Insertion 20



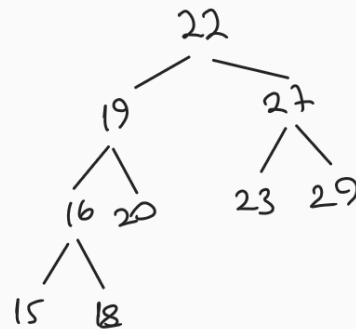
⑦ Insert 27



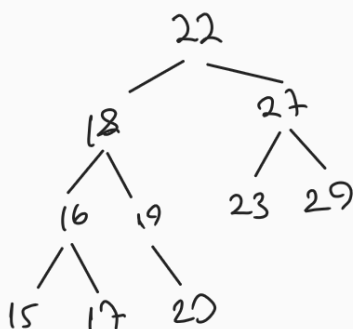
⑧ Insert 16



⑨ Insert 15



⑩ Insert 17



Question 3

For very big data sets, analyzing the data before the determining how many number of printer we should select for start. It is important because giving 1 to number of printer at the beginning of the algorithm can be unnecessary. In order to increase efficiency , we can look at the density. What I mean is that we can look at the density of request and their process time. If requests are very dense in a time interval, it is not necessary to start from 1. There can be several ways to analyze density of requests. The simplest way is traveling whole list and getting sum of the process time, then dividing it whether last arrival time. Result can give approximate idea about the dataset. Instead of this way, with using total number of requests can help use to improve better algorithm. If we go further, we can develop much better algorithm to find better estimation but it is a trade-off. If we go further too much, while we are saving time from the simulator, but we are losing time from the estimation of printer.