

CS 202

Homework 2

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22003550

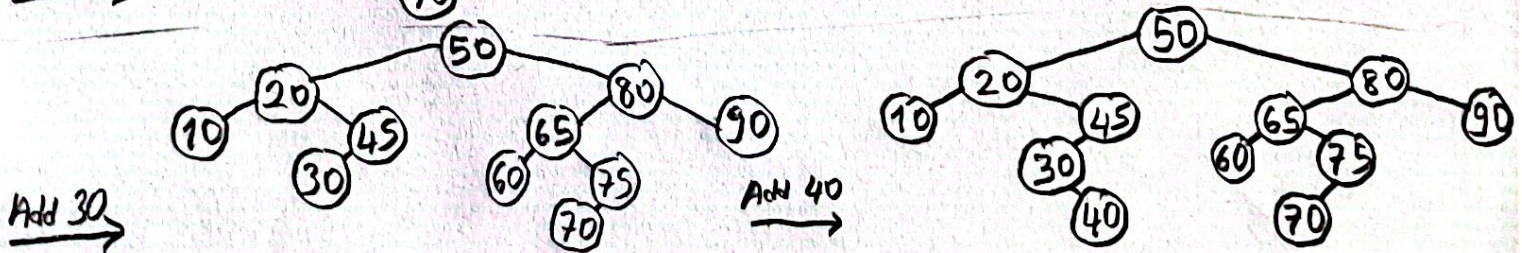
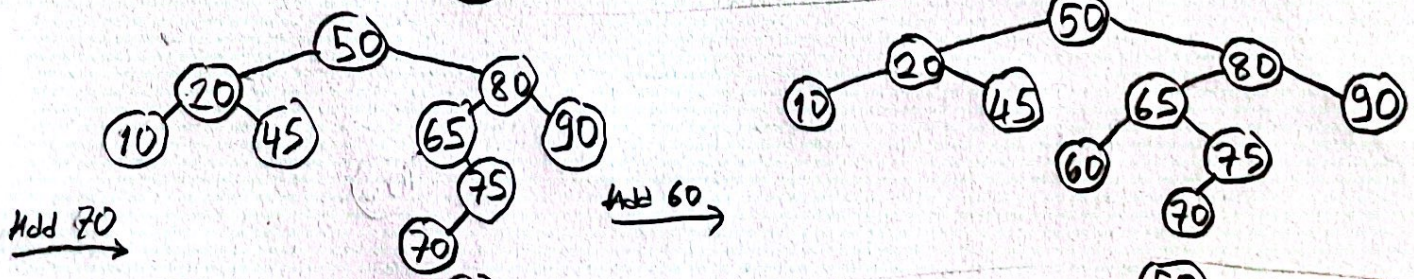
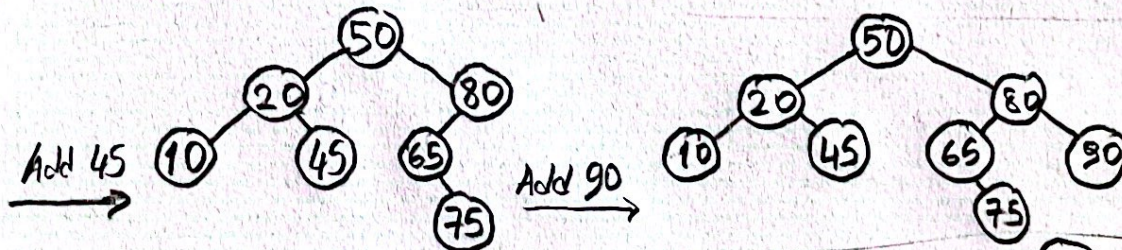
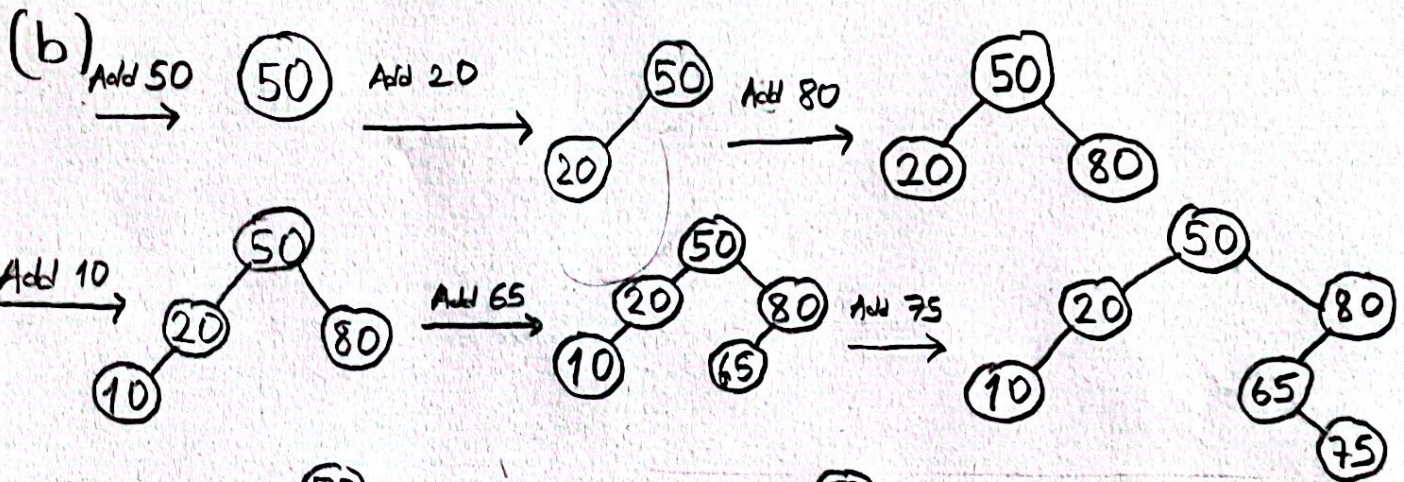
28.03.2022

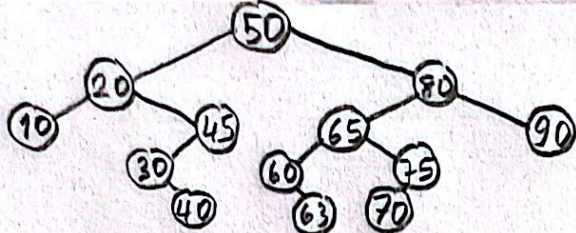
Question-1)

(a) Prefix: $xUABN \setminus CDE$

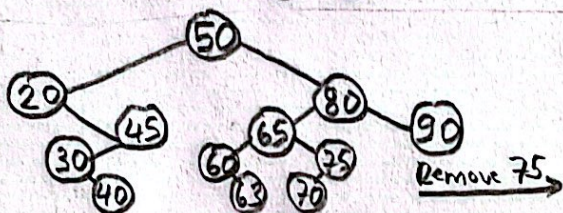
Infix: $(A \cup B) \times [(C \setminus D) \cap E]$

Postfix: $ABUCD \setminus ENx$



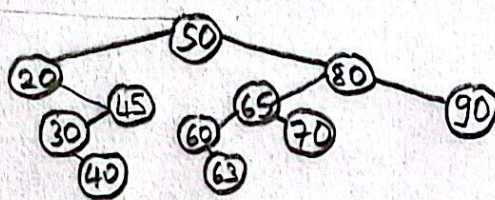


Add 63



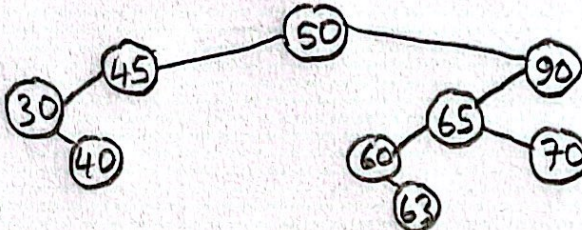
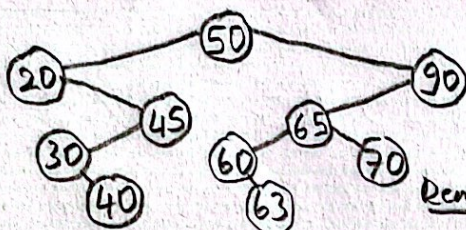
Remove 10

Remove 75

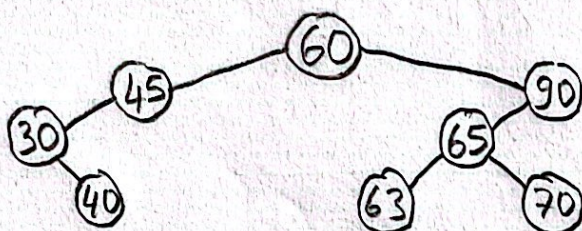


Remove 80

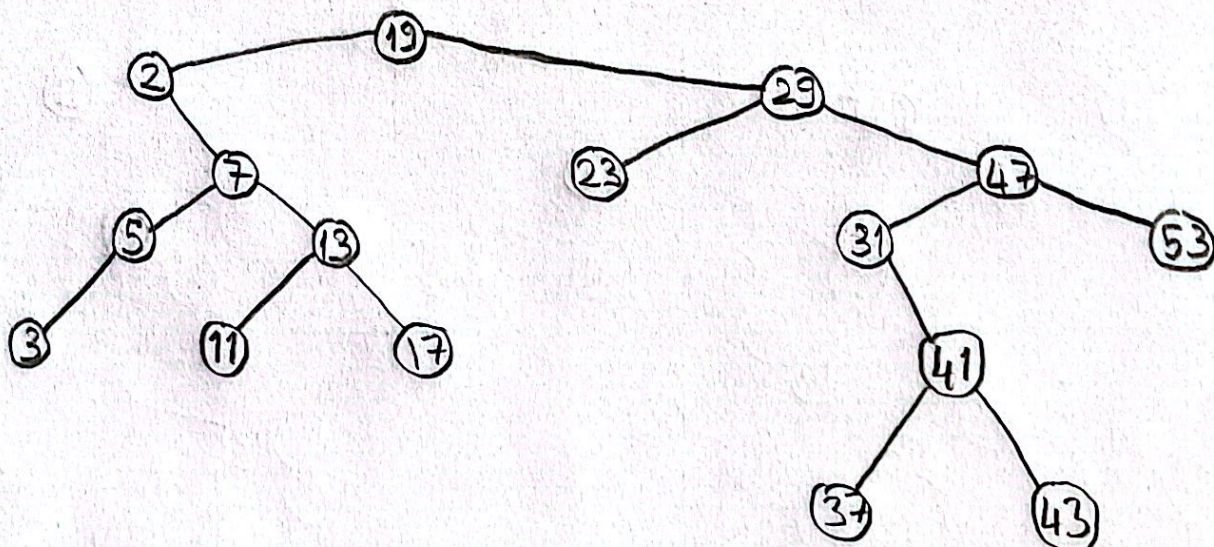
Remove 20



Remove 50

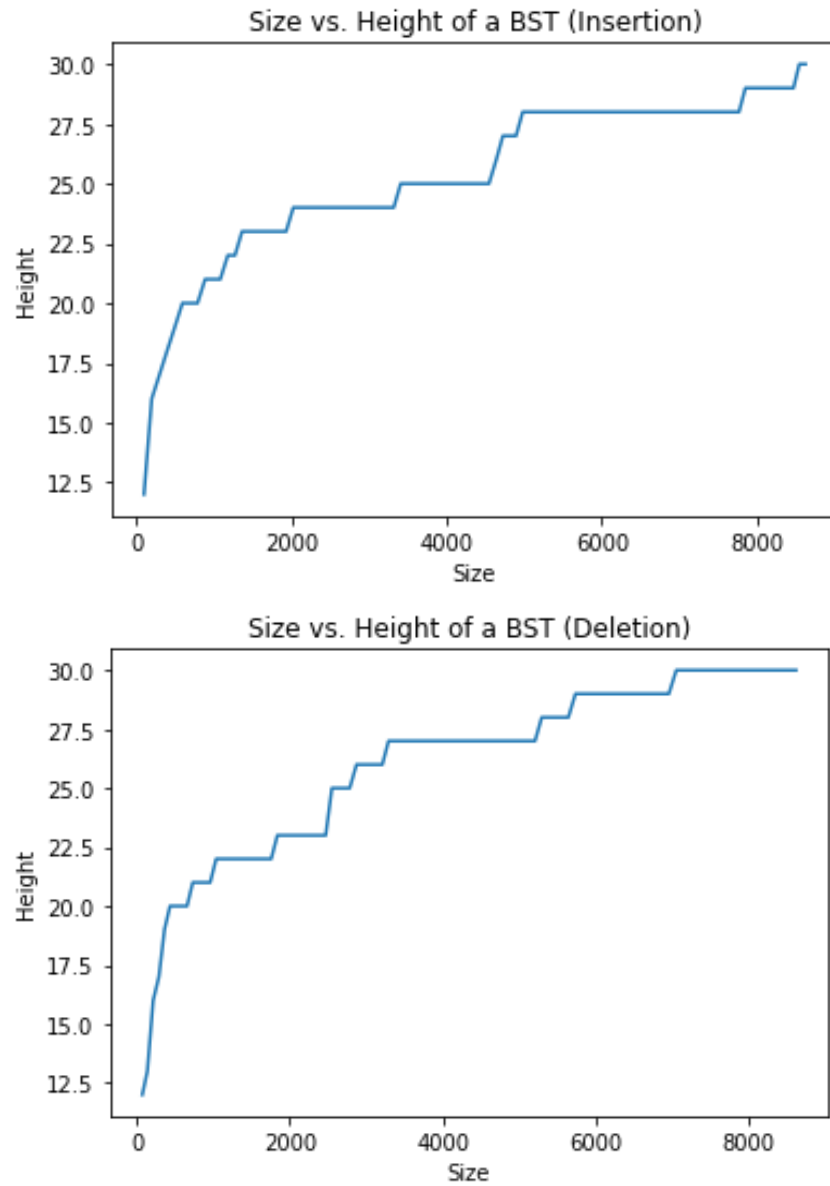


(C) Postorder: 3, 5, 11, 17, 13, 7, 2, 23, 37, 43, 41, 31, 53, 47, 29, 19



So, preorder: 19, 2, 7, 5, 3, 13, 11, 17, 29, 23, 47, 31, 41, 37, 43, 53

Question-3)



As expected, while both inserting and deleting from the binary search tree, size vs. height turned out to be a logarithmic-like graphs.