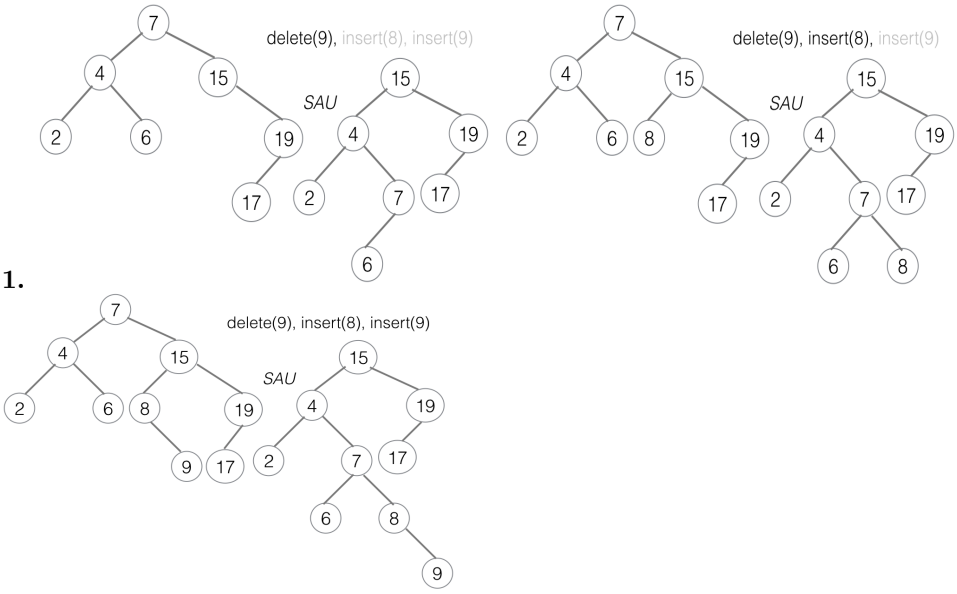
Solutii Probleme Curs 3,4 SDA

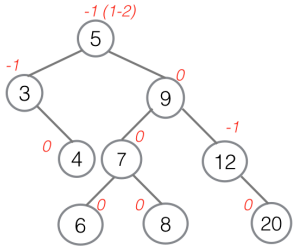
Probleme trasare

1.



Secventa de parcurgere in preordine: 9,4,2,7,6,15,19,17.
Numarul de noduri interne: 5 (incl. radacina).

2. *Secventele (a), (b), (c), (d) ar fi putut genera arborele. (e) nu este solutie intrucat cheia 6 se insereaza inainte de cheia 7, prin urmare in arborele rezultat nodul cu cheia 6 nu poate fi descendent al nodului cu cheia 7.*
Cheile din noduri frunza: 4,6,8,20
Arborele este AVL, intrucat, la orice nod din arbore, diferenta dintre inaltimile sub-arborilor este cel mult 1 (in valoare absoluta).



3. *Tema!*

4. *Tema!*

5. *Tema!*

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6. *Tema!*

7. *Tema!*

Probleme elaborare algoritmi

8. *Tema!*

Algorithm Binary Tree Height

9. **procedure** HEIGHT(root)
if root = NULL **then return** -1
else
return 1+max(HEIGHT(root.left),HEIGHT(root.right))

Algorithm Binary Tree Diameter

10. **procedure** DIAMETER(root)
if root = NULL **then return** -1
else
return max(2+HEIGHT(root.left)+HEIGHT(root.right), DIAMETER(root.left), DIAMETER(root.right))

11. *Tema!*

12. *Tema!*

13. *Tema!*

14. *Tema!*

15. *Tema!*

16. *Tema!*