Last name	
First name	
Group	

Grade	

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Algorithmics
Undergraduate 1st year S2#
Final Exam #2 (P2)
January, 7th 2020 - 13h-15h
Answer Sheets

***Answers 1* (Leonardo trees – *3 points*)**

1. Graphical representation of A_5:

2. (a) $h_n = $ _____

   (b) *Prove that the tree A_n is height-balanced.*

   _____

   _____

   _____

   _____

   _____

   _____

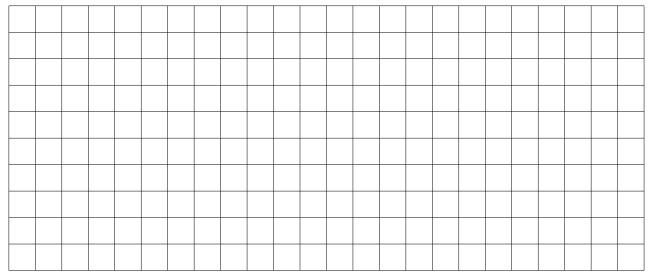***Answers 2 (Leonardo Trees, again − 4 points)***

Specifications:
    The function `leonard_tree`(n) builds the Fibonacci tree A_n.
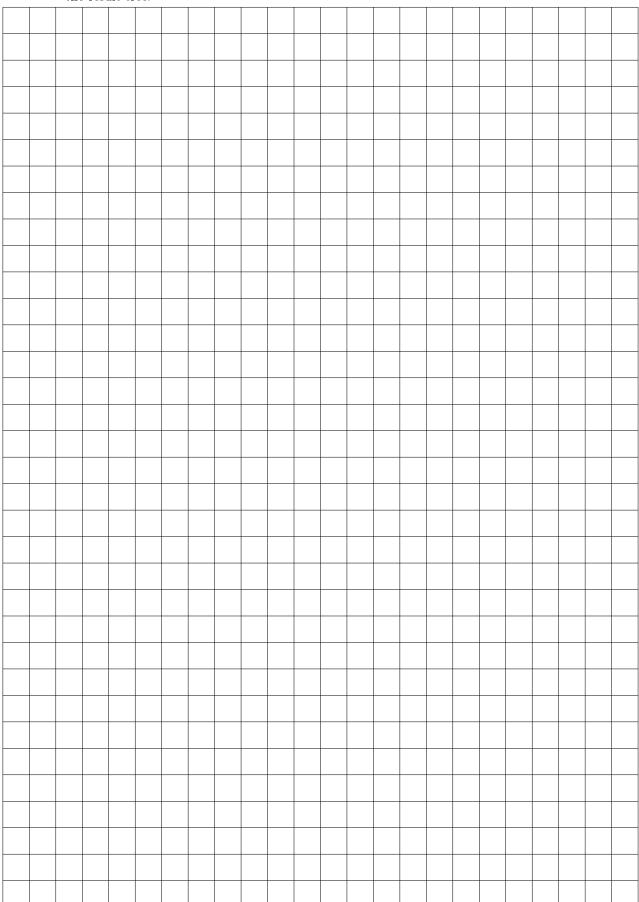
Answers 3 (Deletion − 7 points)

1. **Specifications:**
    The function `maxBST`(B) returns the maximum values in the non-empty binary search tree B.

2. **Specifications:**
   The function delBST(B, x) deletes the element x from the binary search tree B and returns the result tree.

Answers 4 (AVL – 3 points)

Tree built by insertions of 25, 60, 35, 10, 20: *Rotations:*

Tree after insertions of 5, 70, 65: *Rotations:*

Answers 5 (What is this? – 3 points)

1. *Results for*

   (a) `test(`B_1`)`: _____

   (b) `test(`B_2`)`: _____

2. *What does the function* `test(B)` *do??*

   _____

   _____

3. *How to optimize this function?*

   _____

   _____

   _____

   _____