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Exercise 6–Solution proposal

Documentation of the lecture:
„http://wwwlgis.informatik.uni-kl.de/cms/courses/realisierung/“
(June 22, 2011, 3.30 pm, 36-336)
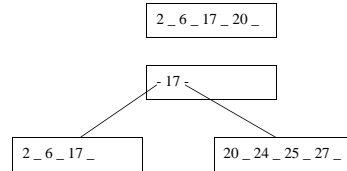
Exercise 6.1 Insertion and Deletion in B*-trees

Please insert the following keys in the given order into an empty B*-tree of class $\tau(2, 2, h*)$:

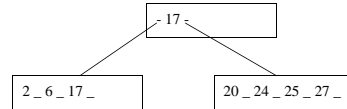2, 6, 17, 20, 24, 25, 27, 29, 30, 31, 32, 5, 21, 1, 40, 45, 50, 70

a) Draw the tree before the first and all consecutive split operation

b) Delete the following keys 25, 6, 5, and 20. Draw the tree after eahch deletion..
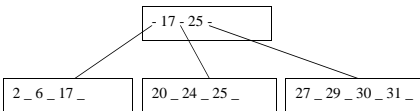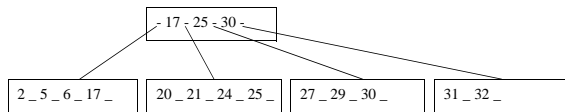
Solution:
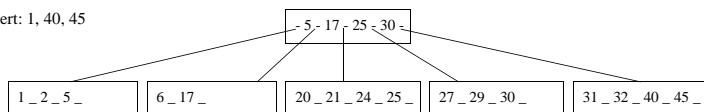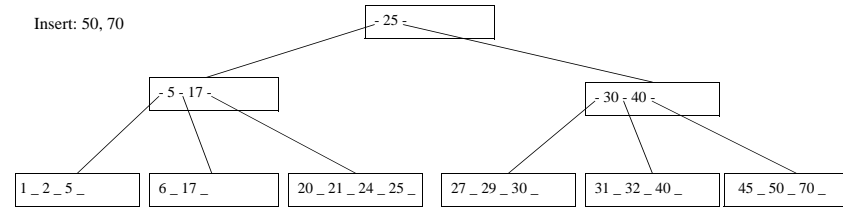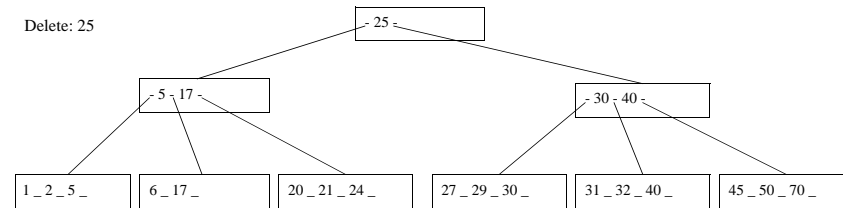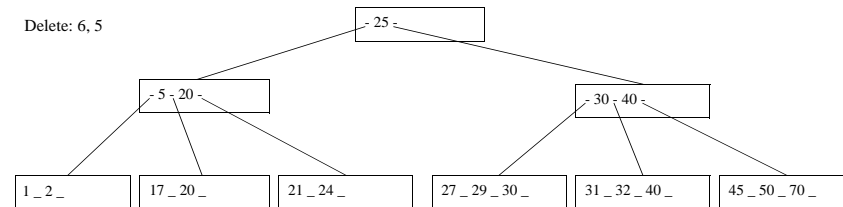
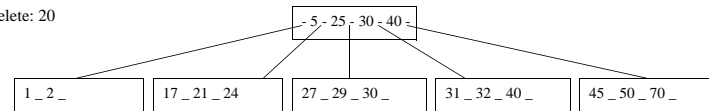**Exercise 6.2 Height of B-Tree and B*-Tree: Upper and Lower Bounds**

For the B-tree and the B*-tree, please derive analytic formulae which enable the determination of the upper and lower bound for the height h of the tree when k, $k*$, and n (number of elements in the tree) are given.

Solution:

For the B-tree and the B*-tree, please derive analytic formulae which enable the determination of the upper and lower bound for the height h of the tree when k, $k*$, and n (number of elements in the tree) are given.

Upper and lower boumd for the height of the B-tree