
Advanced Algorithms and Data Structures

Spring 2017

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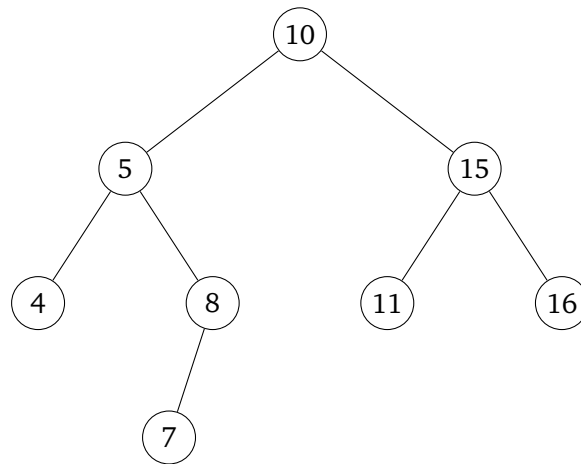
Homework 4

Submission on 27 March 2017

Task 1 (Binary search tree rotation)

2 points

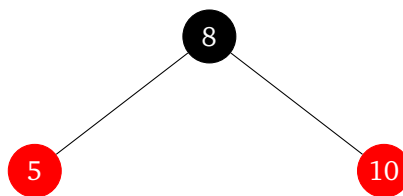
Rotate the following tree to the right at the root node:



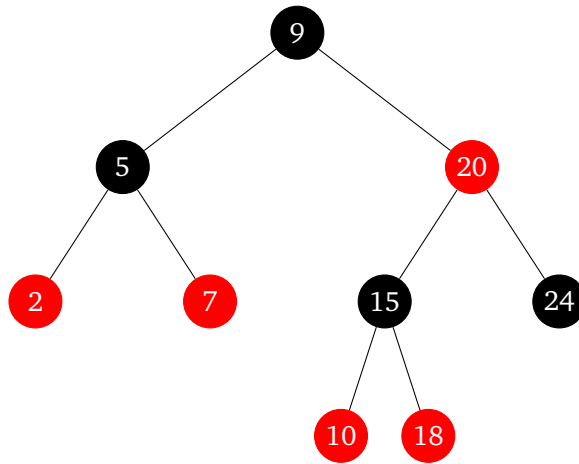
Task 2 (Red-black tree insertion)

5 points

1. Insert 4 into the following red-black tree:



2. Insert 19 into the following red-black tree:



Task 3 (Red-black tree deletion)

5 points

Delete 15 from the following red-black tree:

