Data Structures

Rotations

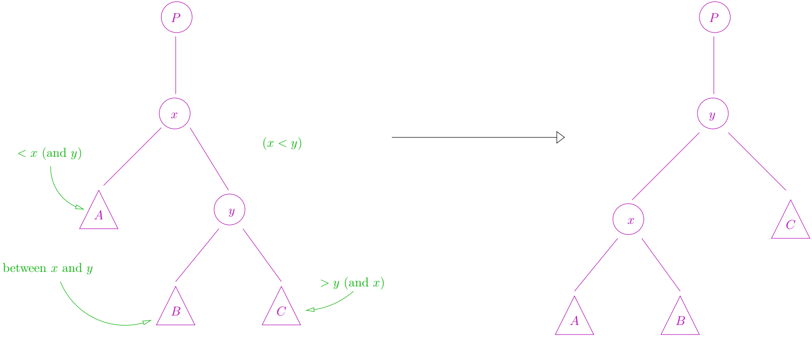
Design and Analysis
of Algorithms I

Left Rotations

Key primitive: *Rotations*. (Common to all balanced search tree implementations: red-black, AVL, B+, etc.)

Idea: Locally rebalance subtrees at a node in $O(1)$ time.

Left rotation: (of a parent x and right child y)



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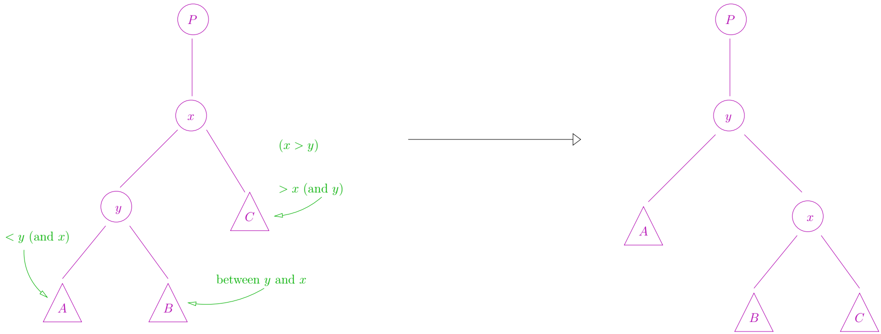
Right Rotations

Right rotation:



Nice properties: Search tree property maintain, can implement in $O(1)$ time.

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