B-tree and B+-tree

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Binary search

• Given n items in a sorted list, how do you find target?

• What if the items are not sorted?
Binary search tree (BST)

- Organize the items in a binary tree

- What if the item is (key, data) pair?
Pros and Cons of BST

• Pros:

• Cons:
2-3 tree

- Each non-leaf node has 2 or 3 children

- What is the price?
B-tree

• Generalized 2-3 tree

• Each non-leaf node has k to \((2k+1)\) children
B+-tree

• Keep the keys in the non-leaf nodes

• All the data in the leaf nodes

• All the “locations” in the leaf nodes