

# Summary

- Balance in search trees allows us to realize  $\Theta(\lg N)$  performance.
- B-trees, red-black trees:
  - Give  $\Theta(\lg N)$  performance for searches, insertions, deletions.
  - B-trees good for external storage. Large nodes minimize # of I/O operations
- Tries:
  - Give  $\Theta(B)$  performance for searches, insertions, and deletions, where  $B$  is length of key being processed.
  - But hard to manage space efficiently.
- *Interesting idea*: scrunched arrays share space.
- Skip lists:
  - Give probable  $\Theta(\lg N)$  performance for searches, insertions, deletions
  - Easy to implement.
  - Presented for *interesting ideas*: probabilistic balance, randomized data structures.