南京郵電大學
Nanjing University of Posts and Telecommunications

组会

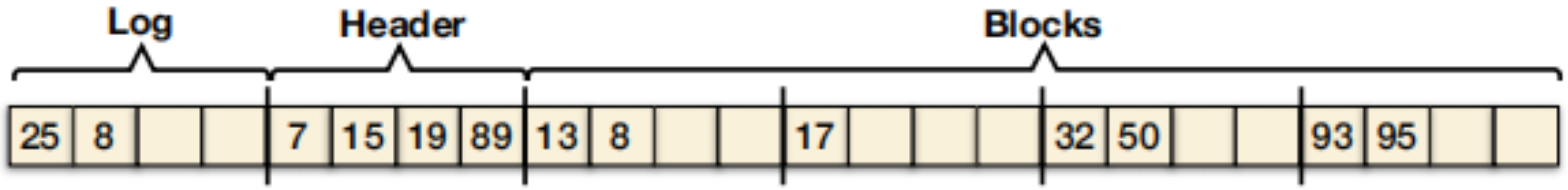
24.05.13

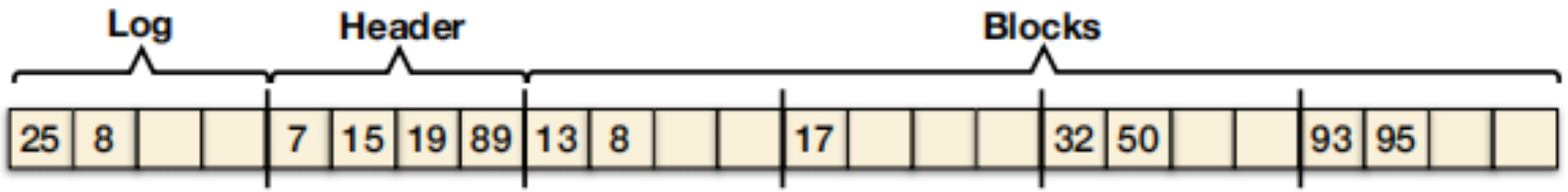
上周工作

- BP-Tree

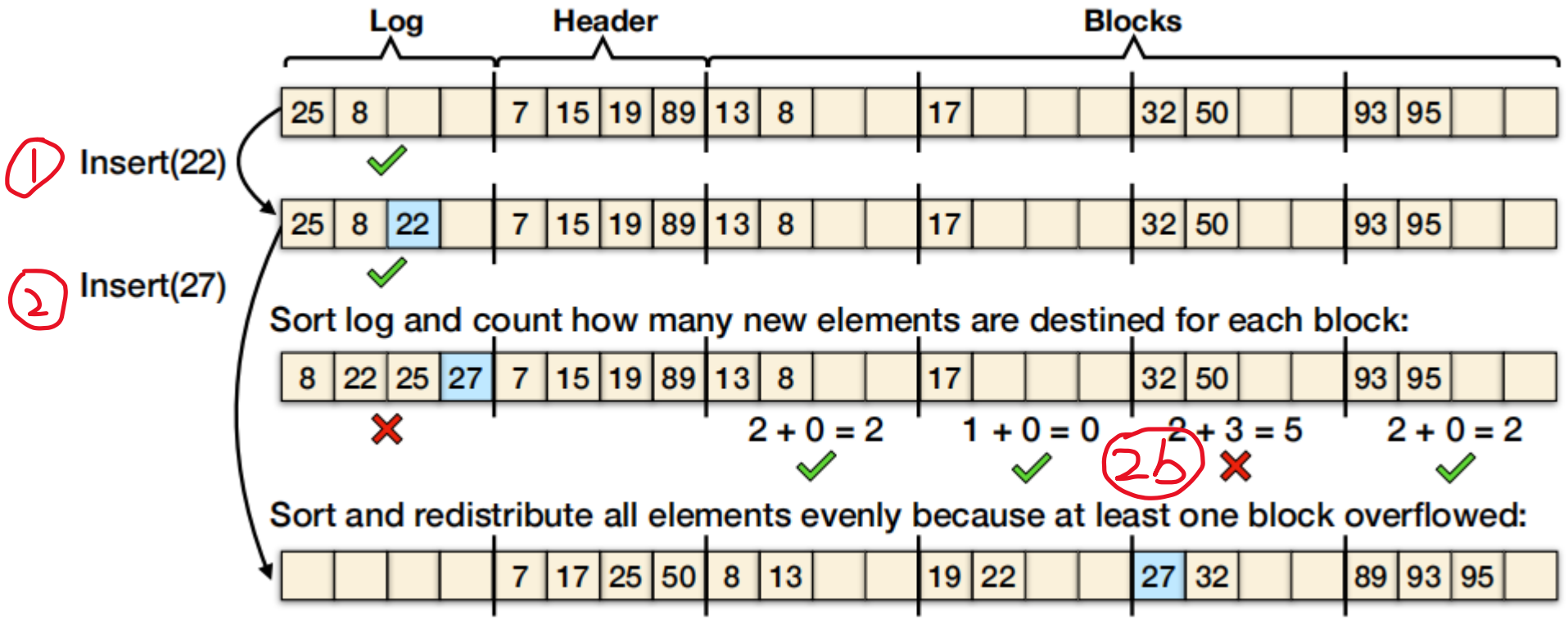
BP-tree: Overcoming the Point-Range Operation Tradeoff for In-Memory B-trees

- Large leaf node introduce more movement of elements
- Small leaf node cost more time to response range query



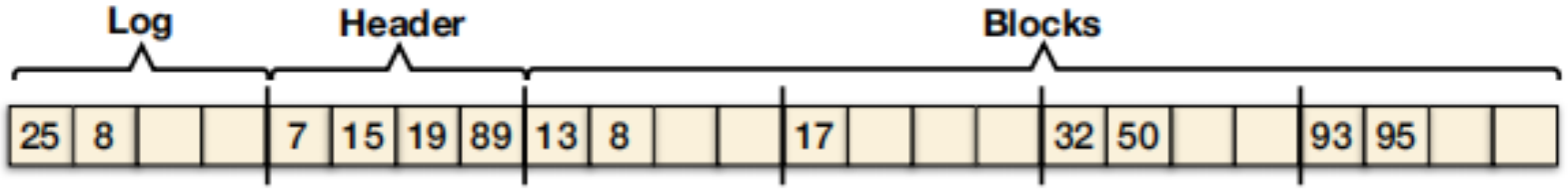


- Log : insert to log
- Header : navigate to blocks
- Blocks : unsort for less movement



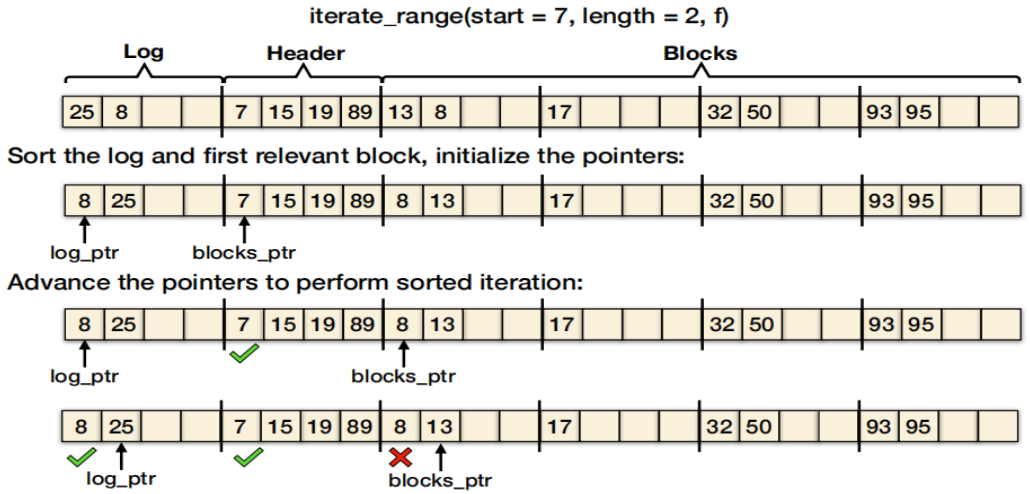
- 1, at least one empty in log after inserting : return
- 2, log full after inserting : put the elements within log into blocks
  - a : each block is enough for inserting
  - b : 1) sort all elements in a separate array. 2) split evently

Point Query



- 1)Log : unsort -> scan
- 2)Header : sort -> AVX512
- 3)Blocks : unsort -> scan

Range Query



- When call Range iteration:
- 1)Sort log and the blocks that **start key** would reside in;
- 2)Use log_ptr (for log) and blocks_ptr(for header/blocks)

- When call Range map :
- 1)Sort log
- 2)Search