

B-trees

Given the following parameters:

Disk access time = 1 milli-sec per byte

1 Page on disk = 2048 bytes

Key = 20 bytes

Pointer = 4 bytes

Data = 256 bytes per record (includes key)

$$M \cdot 4 + (M-1) \cdot 20 = 2048$$

$$24M = 2068$$

$$M = \left\lfloor \frac{2068}{24} \right\rfloor = 86$$

What are the best values for: (Show your work for full credit.)

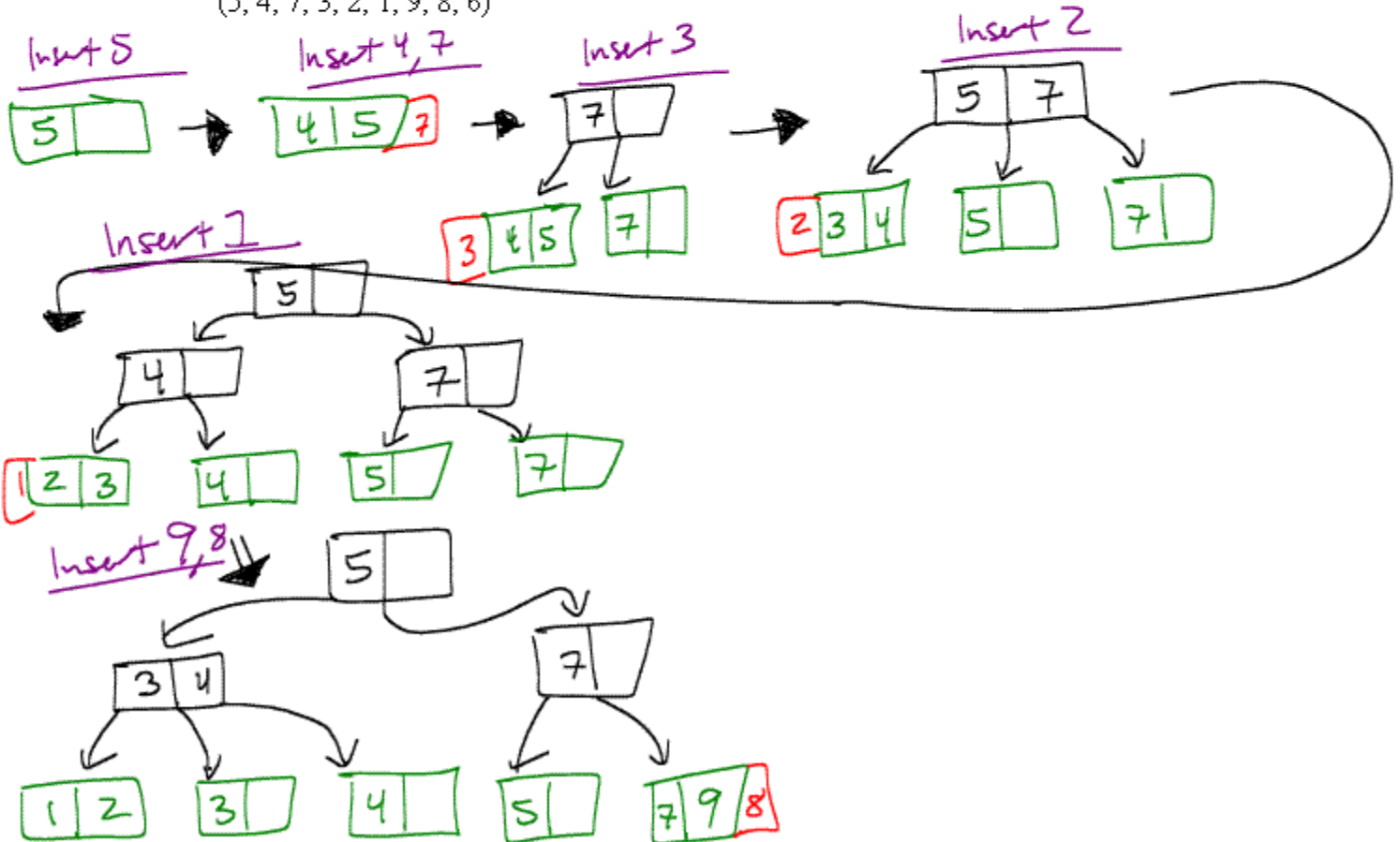
$$M = 86$$

$$L = 8$$

$$L \cdot 256 = 2048$$

$$L = \frac{2048}{256} = \frac{2^{11}}{2^8} = 2^3 = 8$$

7) **B-trees:** Insert the following values *in this order* into a B-tree with $L=2$ and $M=3$:
(5, 4, 7, 3, 2, 1, 9, 8, 6)



Insert 6:

