

For answers that involve filling-in a , fill-in the shape completely: .

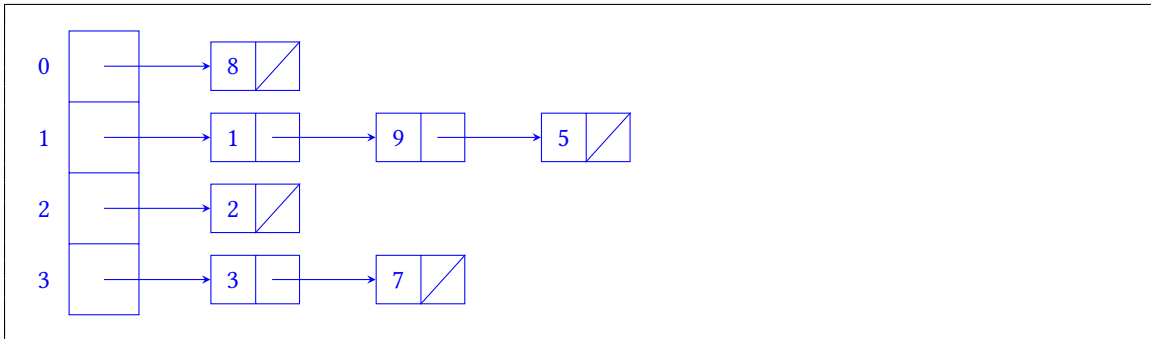
1. Mark all of the following true expressions about the height of a binary search tree of size N .

- $O(\log N)$
 $\Theta(\log N)$
 $\Omega(\log N)$
 $O(N)$
 $\Theta(N)$
 $\Omega(N)$

2. Mark all of the following true expressions about the height of a binary heap of size N .

- $O(\log N)$
 $\Theta(\log N)$
 $\Omega(\log N)$
 $O(N)$
 $\Theta(N)$
 $\Omega(N)$

3. Draw the separate-chaining hash table with $M = 4$ buckets that results from inserting the following items in this order: 1, 2, 3, 7, 8, 9, 5. Assume that the hash function for integers returns the value of the integer and that items are added to the end of the linked list.



4. Draw the separate-chaining hash table after resizing to $M = 8$ buckets.

