Week 4 Lesson 3 Prep

1. After hashCode() % 5

0	1	2	3	4
4.0	3.667	3.333	3.0	2.667

2. Collisions are resolved using chaining:

=> After hashCode() % 5 :

0	1	2	3	4
↓	↓	↓	↓	↓
4.0	3.667	3.333	3.0	2.667
↓				
2.333				

3. Resizing hash table:

You can't and shouldn't just copy over the linked list elements:

- The hash function depended on the num of buckets, as increasing the size of the hash map necessitates increasing the num of buckets, and therefore the modulo ↴

index = hash(key) % capacity

If your double capacity, all elements need to be rehashed because:

key % oldCapacity != key % newCapacity

So the elements would be in the wrong buckets. The distribution of elements would be uneven as a result, leading to performance degradation. And you would lose the purpose of resizing the hash table in the first place, which was to reduce the length of your linked list.

That's why you should iterate over every value in the linked lists in each hash and reassign them independently. So, TLDR: don't just copy the linked list to that spot in the new table.