Week 2 Quiz

Q1.

In the worst case, what's the time complexity of adding a new key to an open addressing hash table?

A. `O(1)`

B. `O(logn)`

C. `O(n)`

D. `O(n^2)`

Q2.

Say that we have a hash function `h(x)`that returns the index related to the first character of `x`, as discussed in the lessons. If we have a hash table that looks like this:

```
[ , 'bat', , 'dog', 'zebra', , , ]
```

Then what will the hash table look like after inserting `'beatle'` when using open addressing with linear probing?

A. `[ 'beatle', 'bat', , 'dog', 'zebra', , , ]`

B. `[ , 'beatle', , 'dog', 'zebra', , , ]`

C. `[ , 'bat', 'beatle', 'dog', 'zebra', , , ]`

D. `[ , ['bat', 'beatle'], , 'dog', 'zebra', , , ]`

Q3.

Which of the following statements about hashing is not true?

A. Hash tables can be used in any situation where direct-address tables can be used

B. Open addressing collision resolution is strictly more efficient than separate chaining

C. Double hashing is guaranteed to find an open position in the table if one exists

D. In the best case, insertion into a separate chaining hash table is `O(1)`