

Q Course

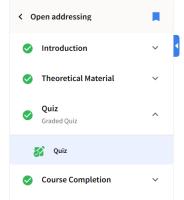
**Progress** 

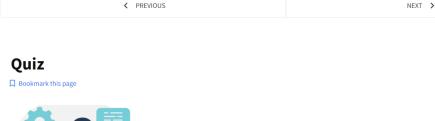
Course is completed. The course result can no longer be changed.

## **Open Addressing**



Home / Course / Open addressing / Quiz





Now, it's time for a short quiz to recap what you've learned. The quiz is **graded**, so you can take it only once. Each question will be followed by feedback explaining why your answer is right or wrong. If your answer is incorrect, you will see a suggestion of what you might need to refresh your memory. Good luck!

Read the question below and select the correct answer. Then, click "Submit."

You have a hash table with open addressing of the size m = 8.

You decide to use the linear probing method with the following hash function:

 $H(key, i) = (h(key) + i) \mod m$ 

The auxiliary hash function is defined as:

 $h(key) = (23 * key) \mod 61$ 

You insert the following (K; V) pairs into the hash table:

[(40; 1), (94; 2), (70; 3), (95; 4), (74; 5)]

What keys are stored in the following entries of the hash table after the insertions above?

- Entry 0
- Entry 3
- Entry 5

	None, 94, 40
	94, 95, 74
	74, None, 40
	40, 94, None
	None, 70, 74
	95, 40, 94
	70, 94, 40
~	

Correct: 1. (40; 1)

H(40, 0) = 5 # empty

The hash table after the insertion:

[None, None, None, None, 40, None, None]

2. (94; 2)

H(94, 0) = 3 # empty

The hash table after the insertion:

[None, None, None, 94, None, 40, None, None]

3. (70; 3)

H(70, 0) = 0 # empty

The hash table after the insertion:

[70, None, None, 94, None, 40, None, None]

4. (95; 4)

H(95, 0) = 2 # empty

The hash table after the insertion:

[70, None, 95, 94, None, 40, None, None]

5. (74; 5) H(74, 0) = 7 # emptyThe hash table after the insertion: [70, None, 95, 94, None, 40, None, 74] Submit You have used 1 of 1 attempt Read the question below and select the correct answer. Then, click "Submit." You have a hash table with open addressing of the size m = 8. You decide to use the quadratic probing method with the following hash function:  $H(key, i) = (h(key) + 5*i + 7*i^2) \mod m$ The auxiliary hash function is defined as:  $h(key) = (19 * key) \mod 73$ You insert the following (K; V) pairs into the hash table: [(53; 1), (35; 2), (99; 3), (87; 4), (34; 5)]What keys are stored in the following entries of the hash table after the insertions above? • Entry 0 • Entry 3 • Entry 5 None, None, 87 99, 35, None None, 53, 35 35, None, None 87, 34, 53 None, 99, None 87, None, 99 Correct: 1. (53; 1) H(53, 0) = 2 # emptyThe hash table after the insertion: [None, None, 53, None, None, None, None, None] 2. (35; 2) H(35, 0) = 0 # emptyThe hash table after the insertion: [35, None, 53, None, None, None, None, None] 3. (99; 3) H(99, 0) = 0 # occupiedH(99, 1) = 4 # empty The hash table after the insertion: [35, None, 53, None, 99, None, None, None] 4. (87; 4) H(87, 0) = 7 # emptyThe hash table after the insertion: [35, None, 53, None, 99, None, None, 87] 5. (34; 5) H(34, 0) = 6 # emptyThe hash table after the insertion: [35, None, 53, None, 99, None, 34, 87 Submit You have used 1 of 1 attempt Read the question below and select the correct answer. Then, click "Submit." You have a hash table with open addressing of the size m = 8. You decide to use the double hashing method with the following hash function:  $H(key, i) = (h1(key) + i*h2(key) \mod m$ The auxiliary hash functions are defined as:  $h1(key) = (11*key+7) \mod 13$  $h2(key) = (7*key+11) \mod 32$ You insert the following (K; V) pairs into the hash table:

• Entry 0

[(61;1),(81;2),(99;3),(55;4),(4;5)]

What keys are stored in the following entries of the hash table after the insertions above?

• Entry 3

• Entry 5

