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

⌂ Open Addressing

Open addressing 🔖

- ✅ Introduction ⌄
- ✅ Theoretical Material ⌄
- ✅ Quiz ⌃
  Graded Quiz
    - ✅ Quiz
- ✅ Course Completion ⌄

Quiz

🔖 Bookmark this page

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, 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 # empty
The 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 # empty
The hash table after the insertion:
[None, None, 53, None, None, None, None, None]

2. (35; 2)
H(35, 0) = 0 # empty
The hash table after the insertion:
[35, None, 53, None, None, None, None, None]

3. (99; 3)
H(99, 0) = 0 # occupied
H(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 # empty
The hash table after the insertion:
[35, None, 53, None, 99, None, None, 87]

5. (34; 5)
H(34, 0) = 6 # empty
The 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:
[(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 0
- Entry 3
- Entry 5

- ◉ None, 4, 55
- ○ 55, None, 99
- ○ 99, 55, 81
- ○ 61, None, 4
- ○ 4, None, None
- ○ 99, 55, 61
- ○ 55, 99, 61

✔

Correct: 1. (61; 1)
H(61, 0) = 2 # empty
The hash table after the insertion:
[None, None, 61, None, None, None, None, None]

2. (81; 2)
H(81, 0) = 1 # empty
The hash table after the insertion:
[None, 81, 61, None, None, None, None]

3. (99; 3)
H(99, 0) = 4 # empty
The hash table after the insertion:
[None, 81, 61, None, 99, None, None, None]

4. (55; 4)
H(55, 0) = 1 # occupied
H(55, 1) = 5 # empty
The hash table after the insertion:
[None, 81, 61, None, 99, 55, None, None]

5. (4; 5)
H(4, 0) = 4 # occupied
H(4, 1) = 3 # empty
The hash table after the insertion:
[None, 81, 61, 4, 99, 55, None, None]

Submit   You have used 1 of 1 attempt

[‹ PREVIOUS]   [NEXT ›]