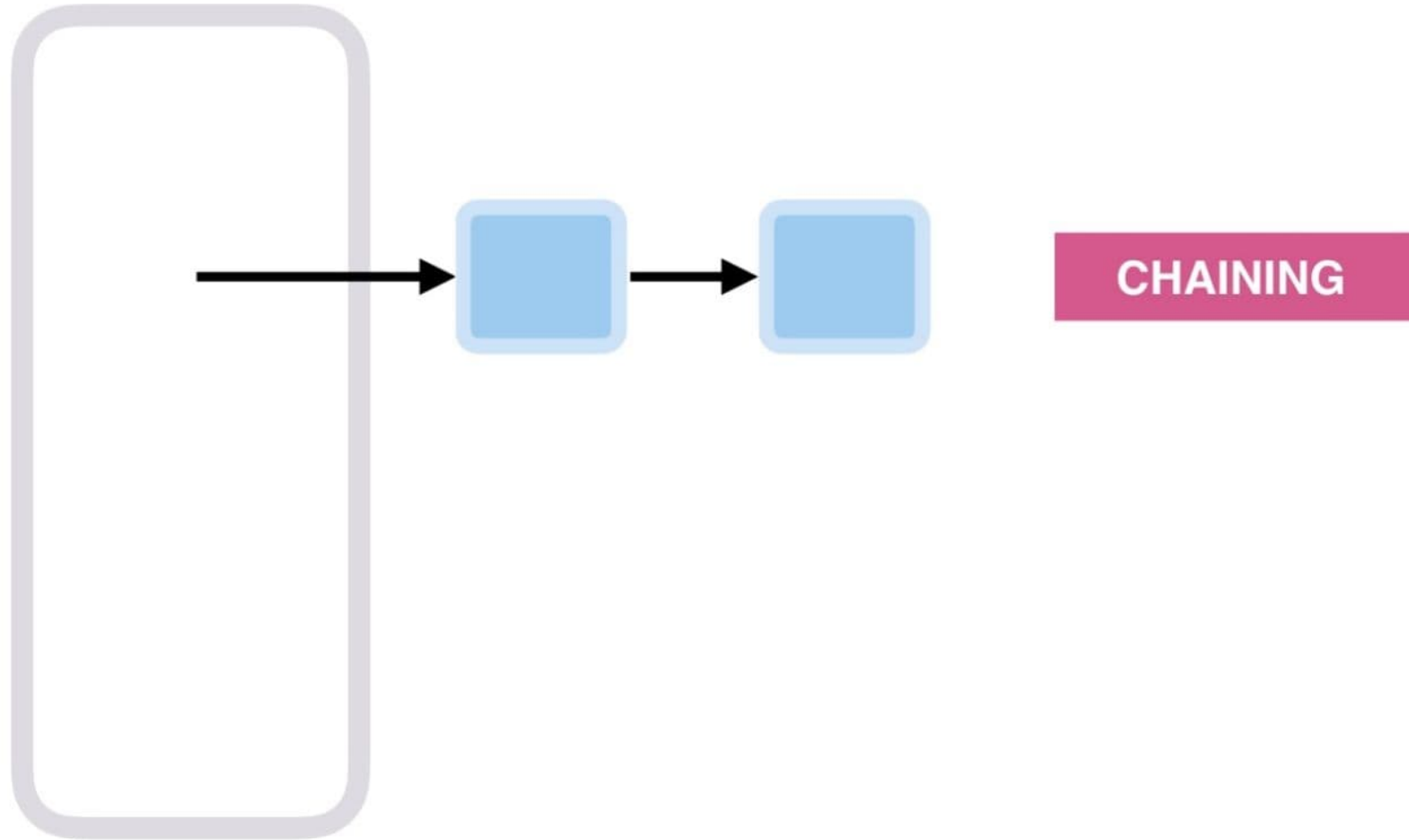
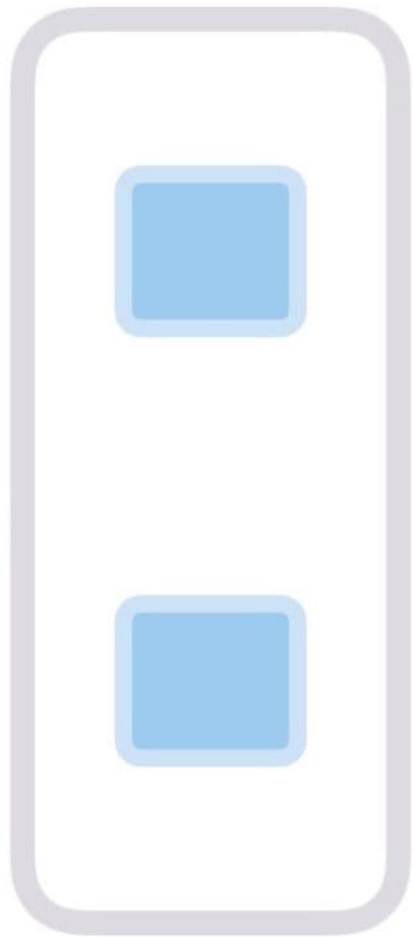


Collisions



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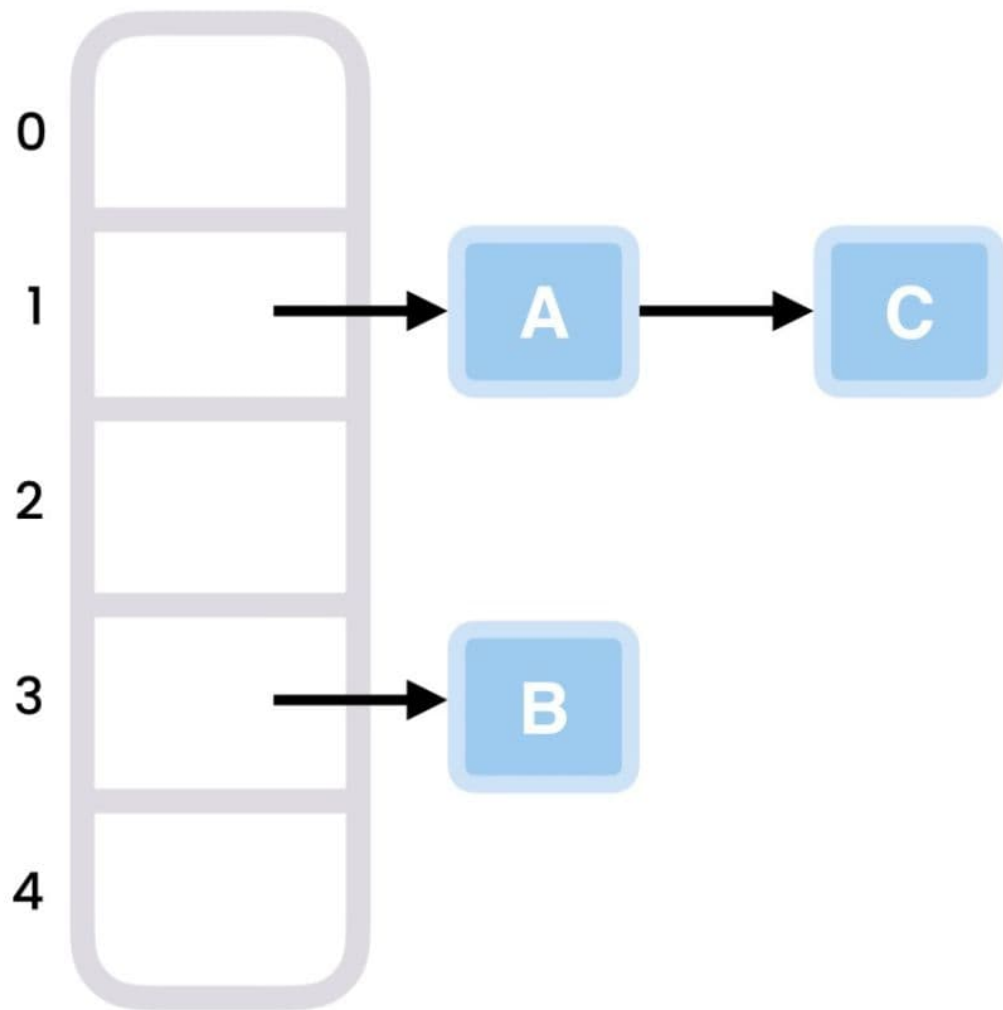
OPEN ADDRESSING

Chaining



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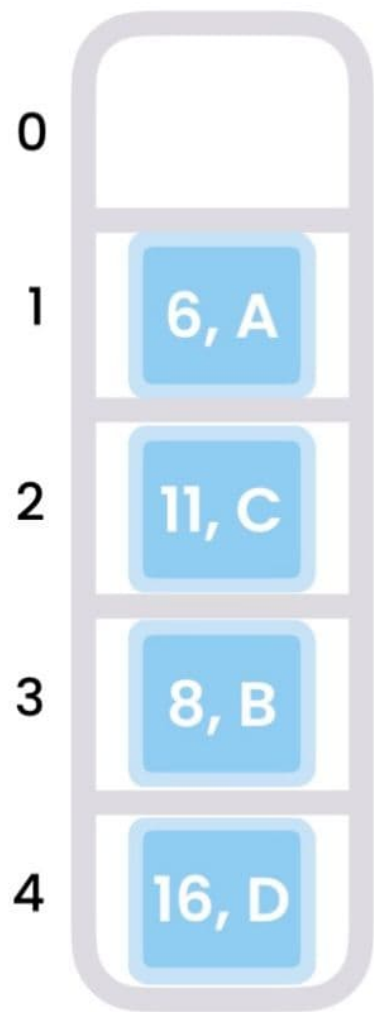
K=11
V=C



Linear Probing



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Linear Probing: $\text{hash}(\text{key}) + i$

CLUSTER

Quadratic Probing



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Linear

$$\text{hash}(\text{key}) + i$$

1

2

3

4

5

Quadratic

$$\text{hash}(\text{key}) + i^2$$

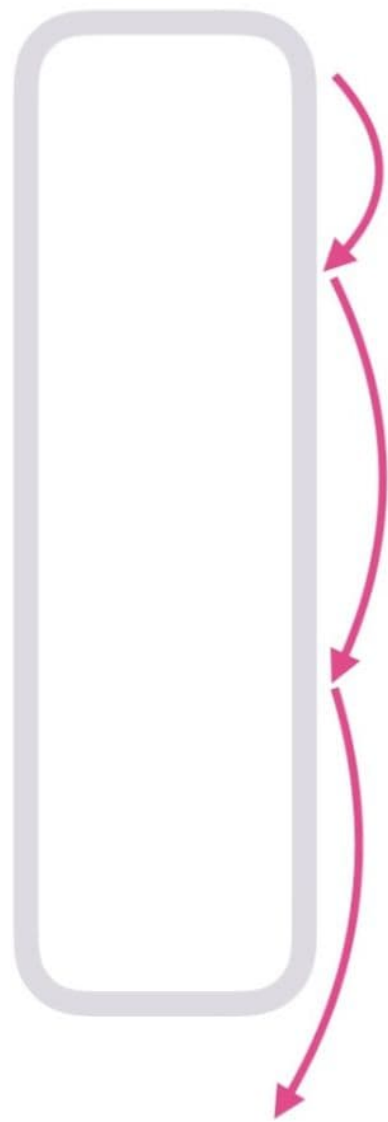
1

4

9

16

25



Double Hashing



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Double Hashing

$\text{hash2}(\text{key}) = \text{prime} - (\text{key} \% \text{prime})$

$(\text{hash1}(\text{key}) + i * \text{hash2}(\text{key})) \% \text{table_size}$

Linear: i

Quadratic: i^2

Double: $i * \text{hash2}$

K=11
V=C



$$\text{hash1}(\text{key}) = \text{key} \% \text{table_size}$$

$$\text{hash2}(\text{key}) = 3 - (\text{key} \% 3)$$

$$\text{index} = (\text{hash1} + i * \text{hash2}) \% \text{size}$$