



UNIVERSITY OF CALIFORNIA, BERKELEY
COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE
AND ELECTRICAL ENGINEERING

Hash Tables: Quadratic Probing

Quadratic probing

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Quadratic probing

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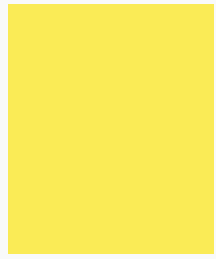
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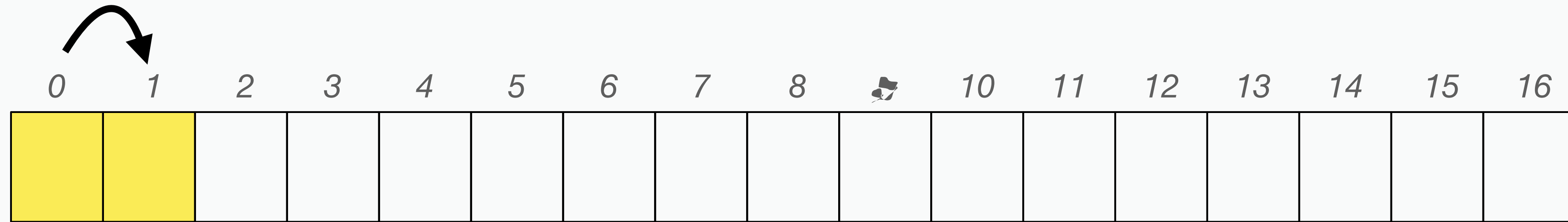
Quadratic probing vs linear probing



Quadratic probing vs linear probing



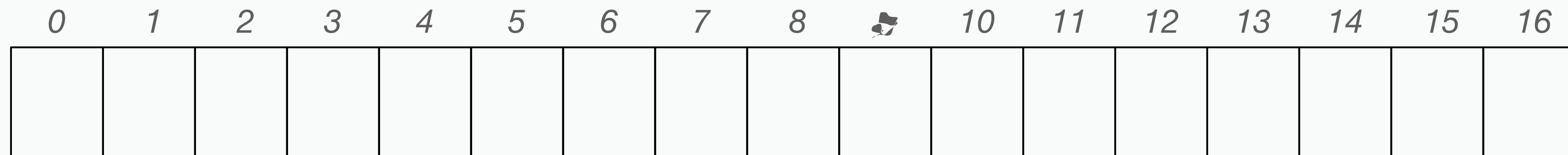
Quadratic probing vs linear probing



0 1



Quadratic probing vs linear probing



Quadratic probing vs linear probing



Quadratic probing vs linear probing



0, 1, 2, 3 4



Quadratic probing vs linear probing



0, 1, 2, 3, 4, 5



Quadratic probing vs linear probing



Quadratic probing vs linear probing

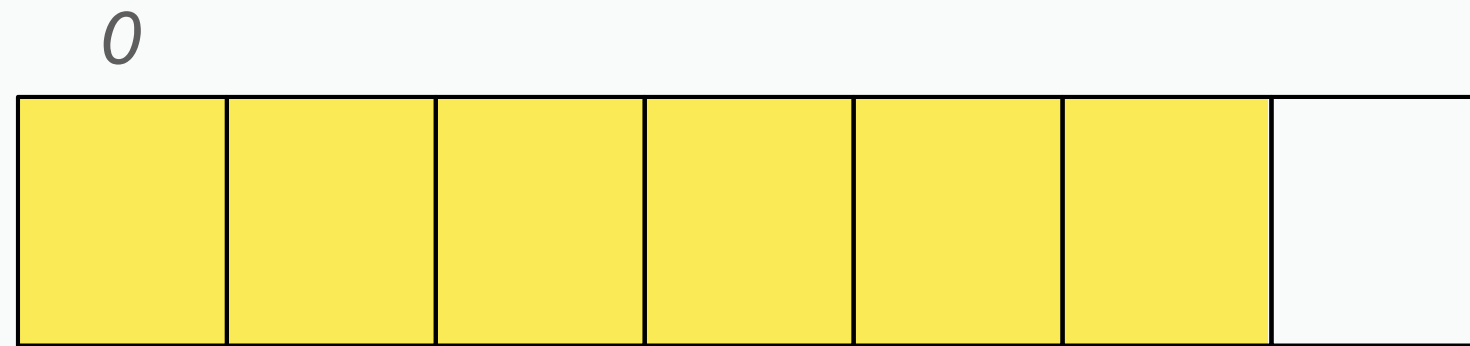


Quadratic probing vs linear probing



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Quadratic probing vs linear probing



Comparison of CRPs

Linear probing	Quadratic probing	Separate chaining
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(1)	(2)	/
		C

Quadratic probing: summary

- $h(k)$ is a hash function that maps keys to slots in the table. $h(k)$ is a quadratic function of k .
- $h(k)$ is a quadratic function of k . $h(k) = a k^2 + b k + c$. a, b, c are constants. $a \neq 0$.

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