Computer Science 3A - CSC3A10 Hash tables with collision handling

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- 1 Hash Table Examples
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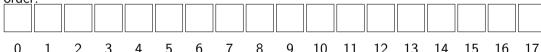
Hash Table Examples

A hash table is an array where the operations are defined by a hash function and a collision handling strategy, which can either be:

- Separate chaining
- 2 Linear Probing
- 3 Quadratic Probing
- 4 Cubic Probing
- 5 Double Hashing

Example 1

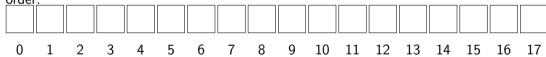
Given a hash function h(x) = x mod 17 for a hash table that uses **linear probing**, redraw the hash table below and **insert** the keys 58, 89, 9, 81, 38, 59, 2, 92 in this order.



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 1

Example 2

Given a hash function h(x) = x mod 17 for a hash table that uses **quadratic probing**, redraw the hash table below and **insert** the keys 58, 89, 9, 81, 38, 59, 2, 92 in this order.



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Example 3

Given a hash function h(x) = xmod17 for a hash table that uses **double hashing**, where d(k) = 7 - kmod7, redraw the hash table below and **insert** the keys 58, 89, 9, 81, 38, 59, 2, 92 in this order.

