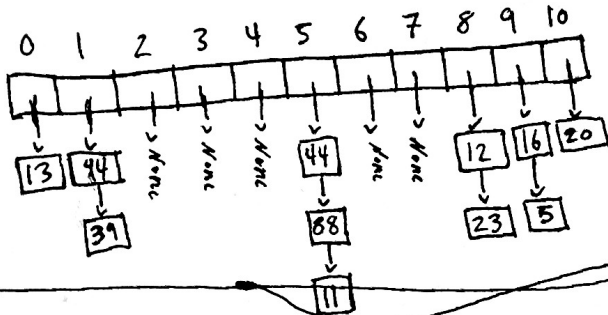**R-10.6)** (open hashing)

Separate chaining collision-handling schemes **can** tolerate a load factor above 1 (although they shouldn't for efficiency), while open addressing schemes require that the load factor is never greater than 1, and **cannot** tolerate greater load factors.
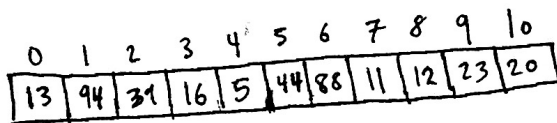
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**R-10.9)** $\{12, 44, 13, 88, 23, 94, 11, 39, 20, 16, 5\}$  $h(i) = (3i+5) \bmod 11$

← Collision chaining method
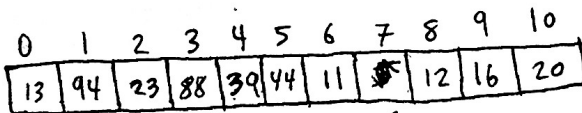


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**R-10.10)**

← Linear probing method

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----|----|----|----|---|----|----|----|----|----|----|
| 13 | 94 | 39 | 16 | 5 | 44 | 88 | 11 | 12 | 23 | 20 |

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**R-10.12)**

← Double-hashing method
E1: $h(i) = (3i+5) \bmod 11$
E2: $h'(k) = 7 - (k \bmod 7)$

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----|----|----|----|----|----|----|----|----|----|----|
| 13 | 94 | 23 | 88 | 39 | 44 | 11 | 5 | 12 | 16 | 20 |

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**R-10.14)**

$\{54, 18, 10, 25, 28, 36, 38, 41, 12, 90\}$

$h(k) = 3k \bmod 7$