

(d) double hashing $h_2(x) = 7 - (x \bmod 7)$

0	
1	79
2	15
3	
4	17
5	
6	99
7	423
8	411
9	
10	
11	89
12	64

$$17 \bmod 13 = 4$$

$$423 \bmod 13 = 7$$

$$64 \bmod 13 = 12$$

$$79 \bmod 13 = 1$$

$$411 \bmod 13 = 8$$

$$89 \bmod 13 = 11$$

$$99 \bmod 13 = 8$$

collision

$$7 - (99 \bmod 7) = 7 - 6 = 1$$

$$15 \bmod 13 = 2$$

Wrong

(e) double hashing $h_2(x) = 7 - (x \bmod 7)$

0	99
1	79
2	15
3	
4	17
5	
6	
7	423
8	411
9	
10	
11	89
12	64

$$99 \bmod 13 = 8 \text{ collision}$$

$$79 \bmod 13 = 1$$

$$7 - 99 \bmod 7 = 6$$

start probing

$$15 \bmod 13 = 2$$

$$8 + 1 \cdot 6 = 14$$

$$14 \cdot 13 = 1 \text{ taken}$$

$$17 \bmod 13 = 4$$

$$8 + 2 \cdot 6 = 20$$

$$20 \cdot 13 = 7 \text{ taken}$$

$$8 + 3 \cdot 6 = 26$$

$$423 \bmod 13 = 7$$

$$26 \cdot 13 = 0 \text{ not taken}$$

$$411 \bmod 13 = 8$$

$$89 \bmod 13 = 11$$

$$64 \bmod 13 = 12$$