

# Rehashing & M = 29

key	$h_1(\text{key})$	home	Prob Sequence
25	$\left(\frac{(25+19)(25+11)}{15} + 25\right) \% 29 \Rightarrow 130 \% 29 = 14$	14	
14	$\left(\frac{(14+19)(14+11)}{15} + 14\right) \% 29 \Rightarrow 169 \% 29 = 11$	11	
9	$\left(\frac{(9+19)(9+11)}{15} + 9\right) \% 29 \Rightarrow 46 \% 29 = 17$	17	
7	$\left(\frac{(7+19)(7+11)}{15} + 7\right) \% 29 \Rightarrow 38 \% 29 = 9$	9	
5	$\left(\frac{(5+19)(5+11)}{15} + 5\right) \% 29 \Rightarrow 30 \% 29 = 1$	1	
3	$\left(\frac{(3+19)(3+11)}{15} + 3\right) \% 29 \Rightarrow 23 \% 29 = 23$	23	
0	$\left(\frac{(0+19)(0+11)}{15} + 0\right) \% 29 \Rightarrow 13 \% 29 = 13$	13	
21	$\left(\frac{(21+19)(21+11)}{15} + 21\right) \% 29 \Rightarrow 106 \% 29 = 19$	19	
6	$\left(\frac{(6+19)(6+11)}{15} + 6\right) \% 29 \Rightarrow 34 \% 29 = 5$	5	
33	$\left(\frac{(33+19)(33+11)}{15} + 33\right) \% 29 \Rightarrow 185 \% 29 = 11$	11 (collision)	[11, 15]
25	DUPLICATE		
42	$\left(\frac{(42+19)(42+11)}{15} + 42\right) \% 29 \Rightarrow 257 \% 29 = 25$	25	
24	$\left(\frac{(24+19)(24+11)}{15} + 24\right) \% 29 \Rightarrow 124 \% 29 = 8$	8	
107	$\left(\frac{(107+19)(107+11)}{15} + 107\right) \% 29 \Rightarrow 1098 \% 29 = 25$	25 (collision)	[25, 1, 6]

## Rehashing Collisions

$$33 \text{ (collision at 11)} = (11 + 1 \times 33) \% 29 = 15$$

$$107 \text{ (collision at 25)} = (25 + 1 \times 701) \% 29 = 1 \text{ (collision)}$$

$$(25 + 2 \times 701) \% 29 = 6$$