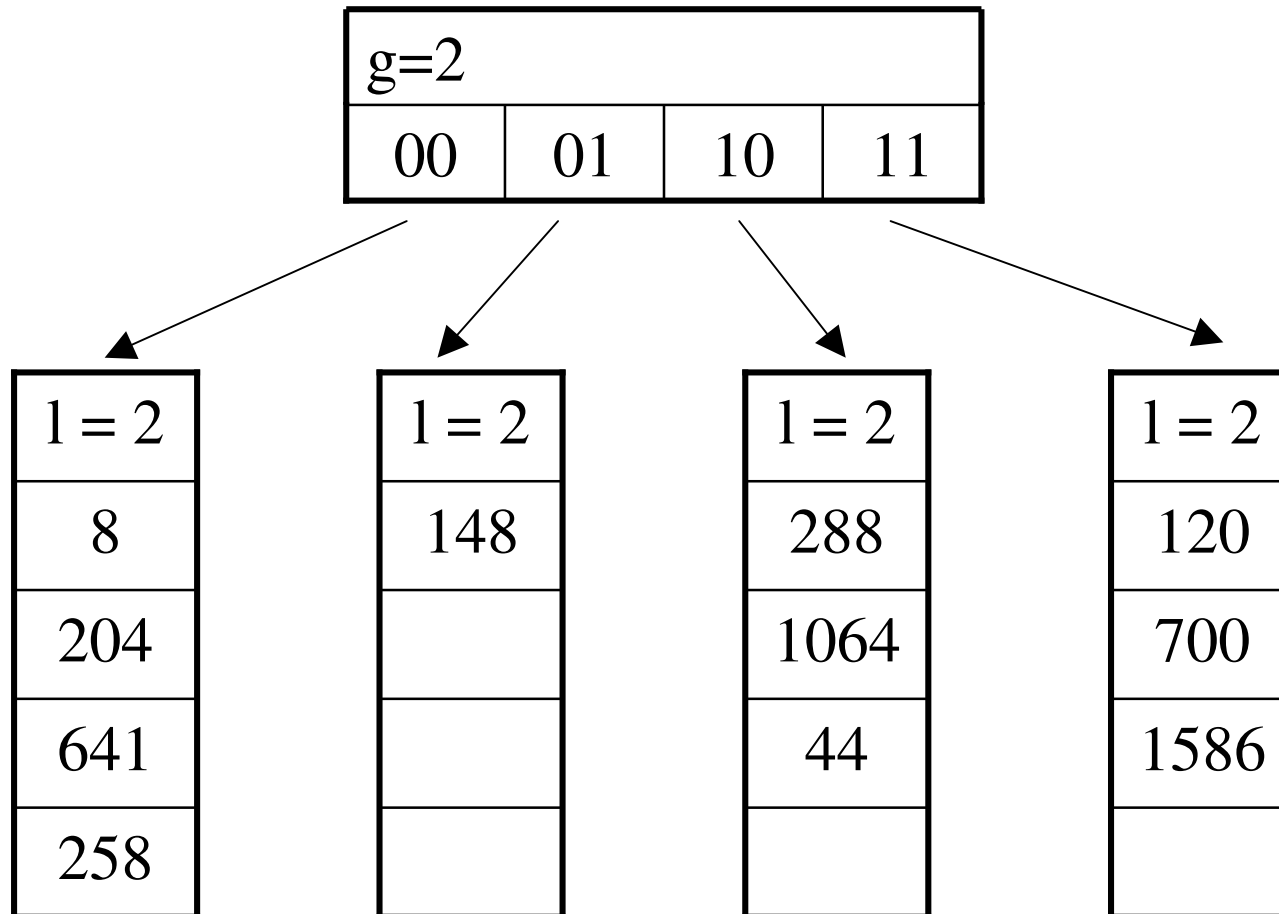


Extendible Hashing Example

- Suppose that $g=2$ and bucket size = 4.
- Suppose that we have records with these keys and hash function $h(\text{key}) = \text{key} \bmod 64$:

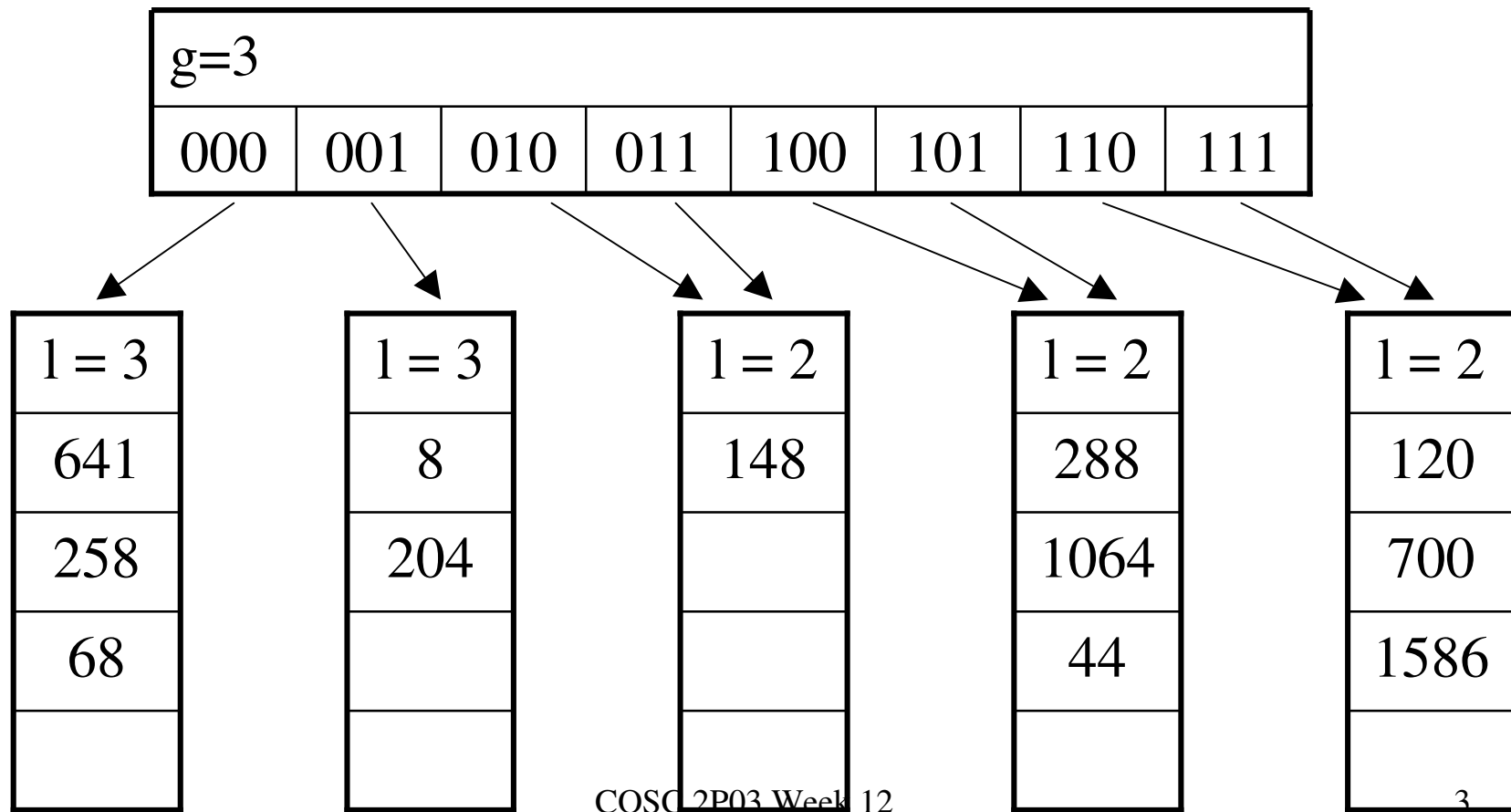
key	$h(\text{key}) = \text{key} \bmod 64$	bit pattern
288	32	100000
8	8	001000
1064	40	101000
120	56	111000
148	20	010100
204	12	001100
641	1	000001
700	60	111100
258	2	000010
1586	50	110010
44	44	101010

Extendible Hashing Example – directory and bucket structure



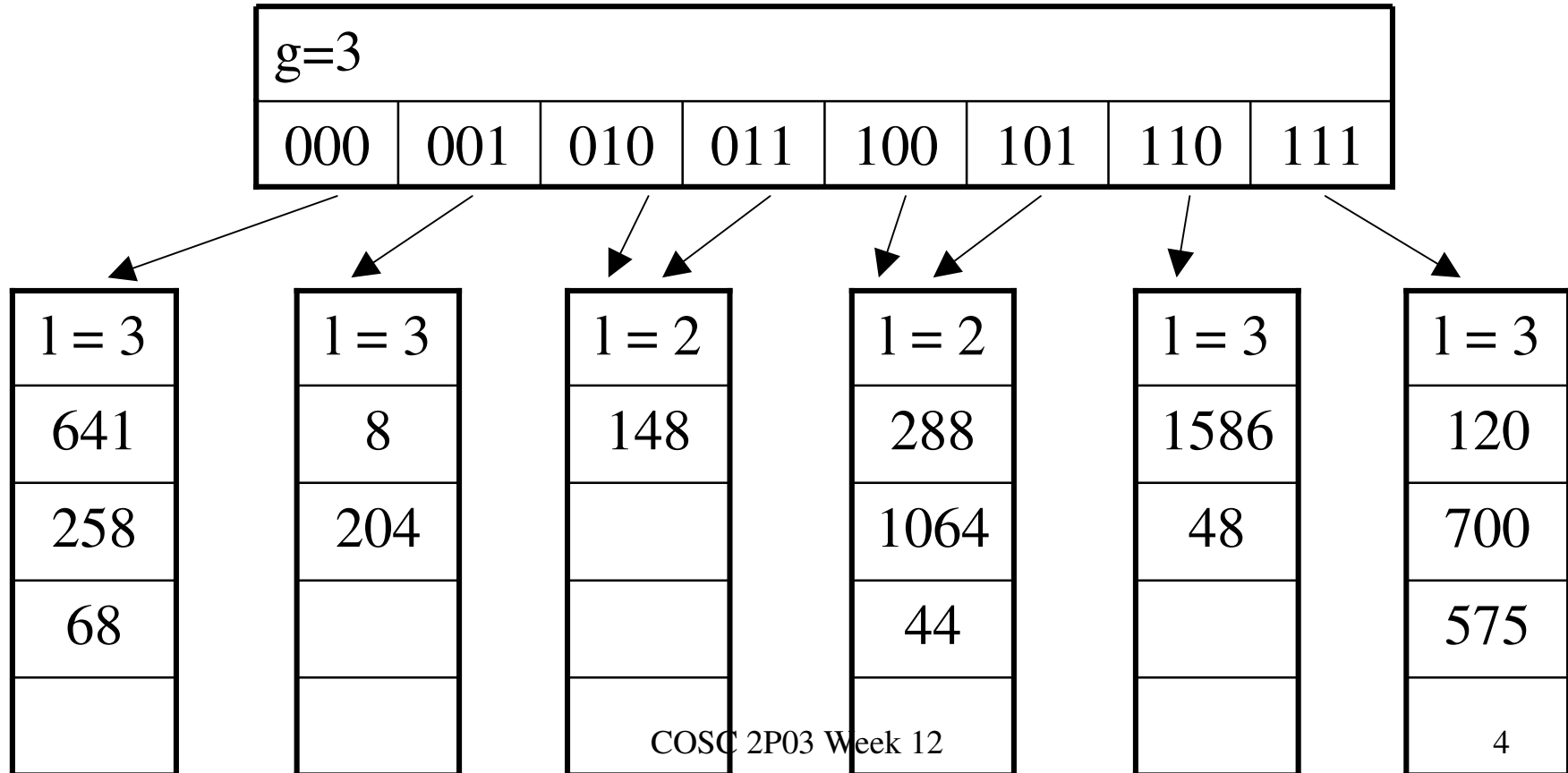
Bucket and directory split

- Insert 68
- $68 \bmod 64 = 4 = 000100$



Bucket split – no directory split

- Insert 48 and 575
- $48 \bmod 64 = 48 = 110000$
- $575 \bmod 64 = 63 = 111111$

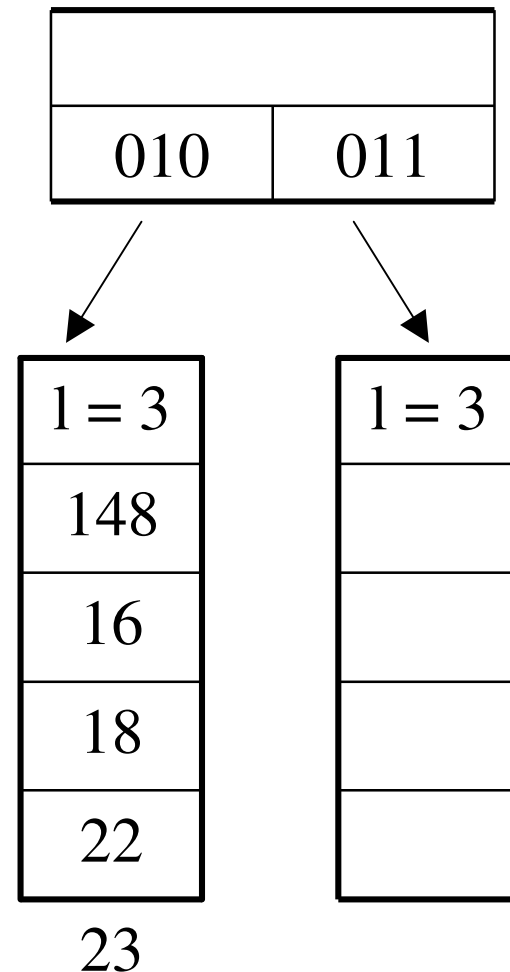


Multiple splits

- Insert 16, 18, 22, 23
- $16 \bmod 64 = 16 = 010000$
- $18 \bmod 64 = 18 = 010010$
- $22 \bmod 64 = 22 = 010110$
- $23 \bmod 64 = 23 = 010111$

Setting $l=3$ gives this intermediate (partial) picture...

Continue to next page...



Multiple splits, continued

- Setting $l=4$ (and thus $g=4$) gives this final result...

