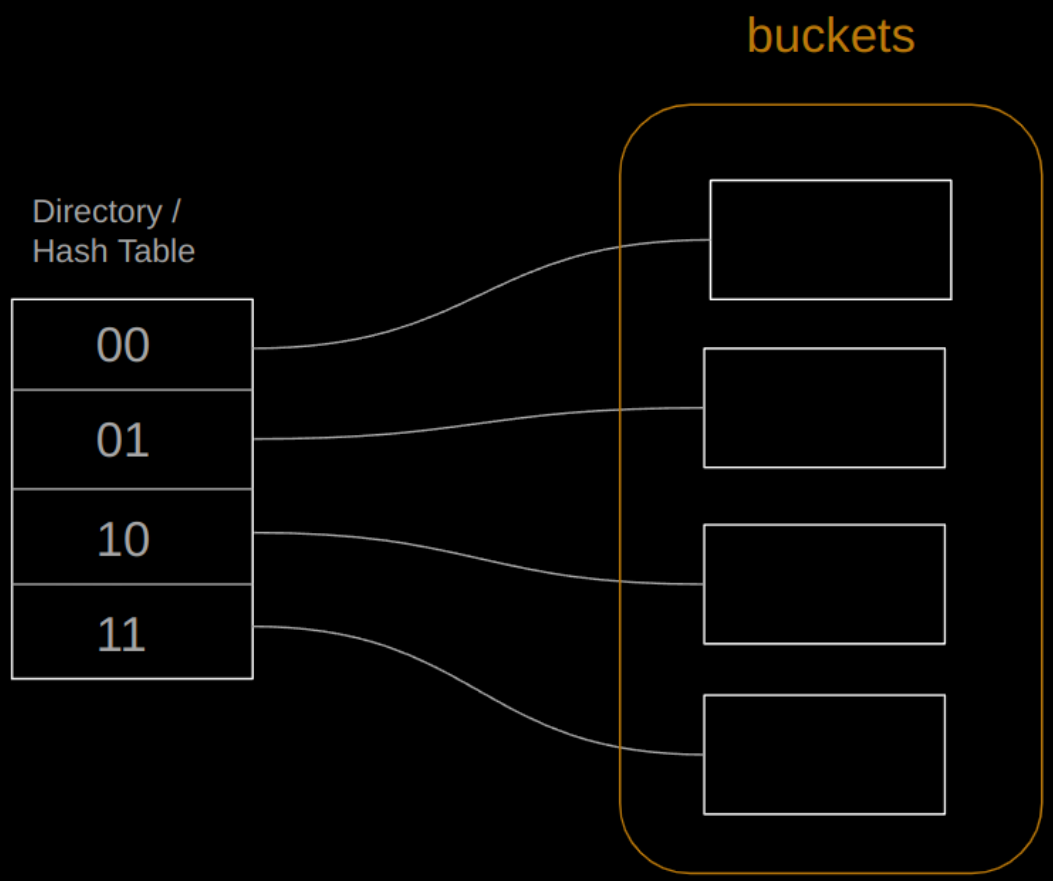
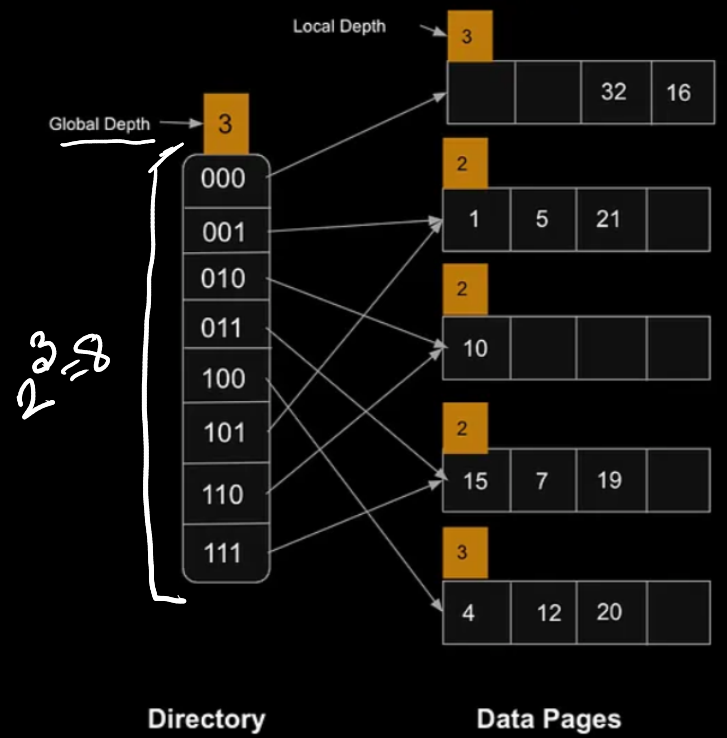

buckets
Directory /
Hash Table
00
01
10
11

The number of directory entries is equal to $2^{\text{global depth}}$, and the initial number of buckets is equal to $2^{\text{local depth}}$.

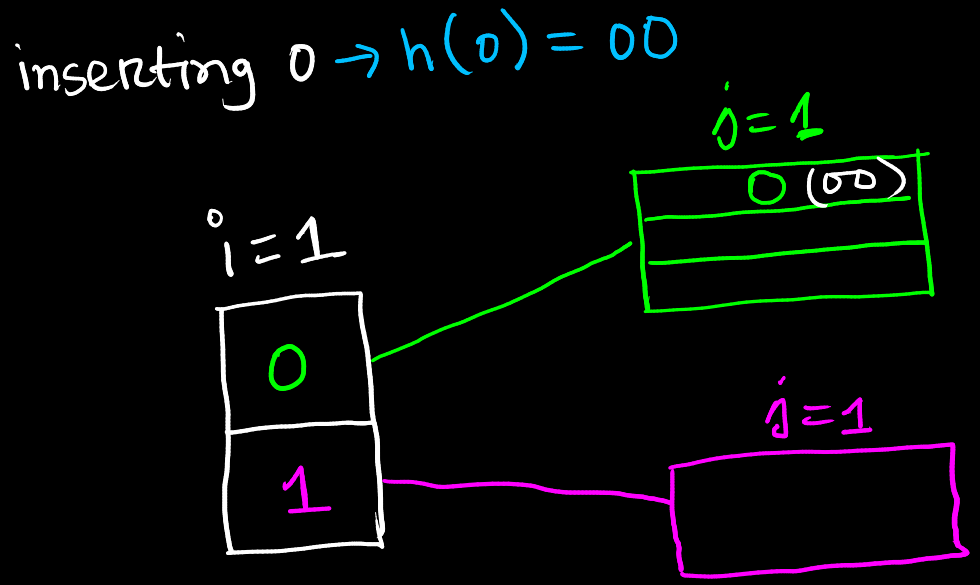
Thus if global depth = local depth = 0, then $2^0 = 1$, so an initial directory of one pointer to one bucket.



Bucket capacity 3
h(x) = x mod 4

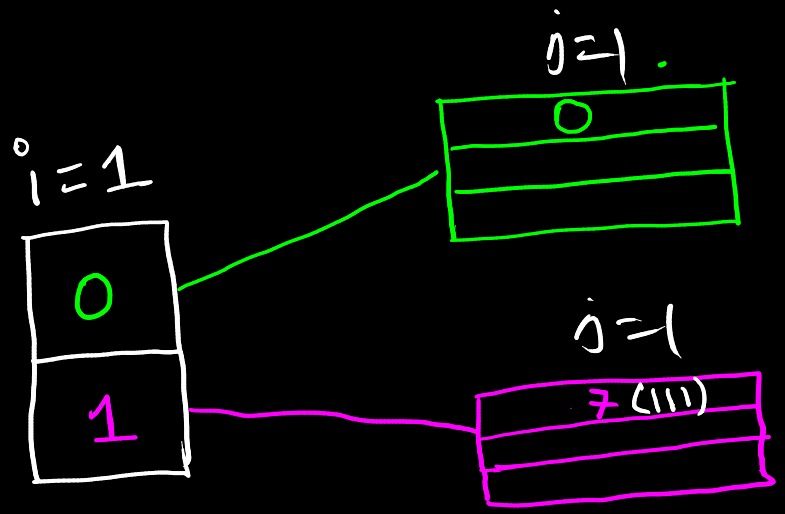
0, 7, 1, 2, 3, 11, 13, 22

initially local & global depth 1



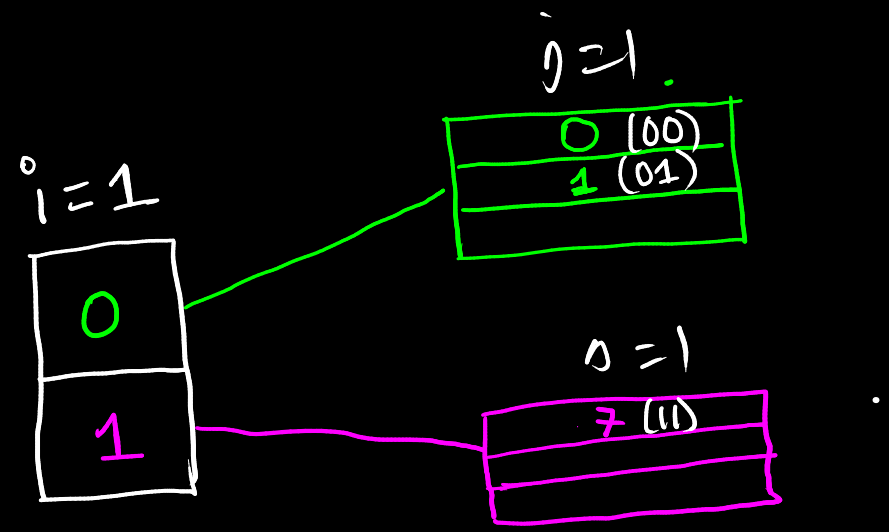
inserting (7) → h(7) → 7%4 = 3 → 111

↑ ith bit



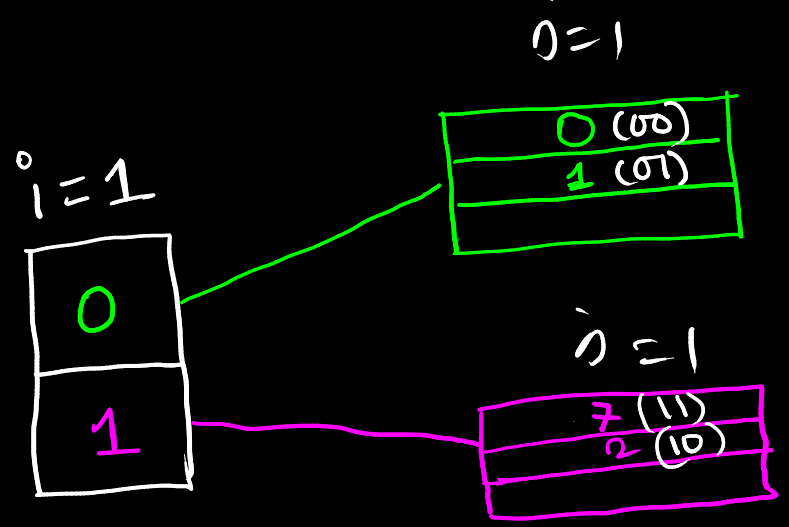
inserting 1 → h(1) = 1 mod 4 = 1 = 01

ith bit

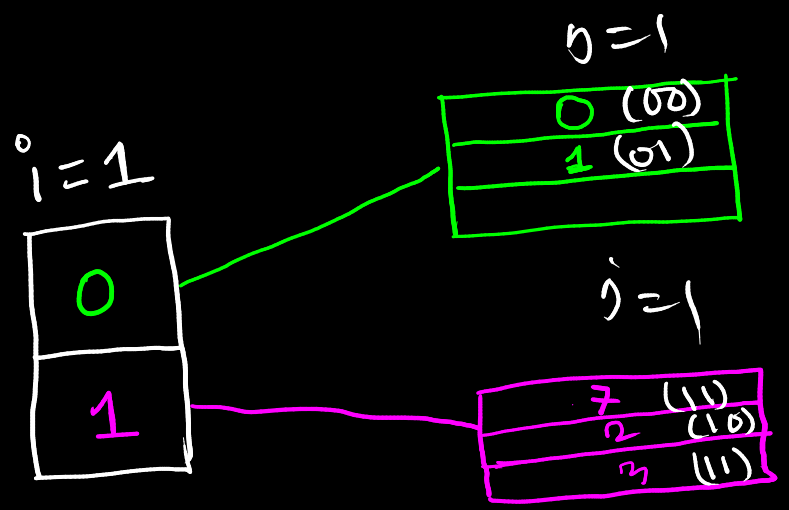


inserting 2 → $h(2) = 2 \bmod 4 = 2 = 10$

ith bit

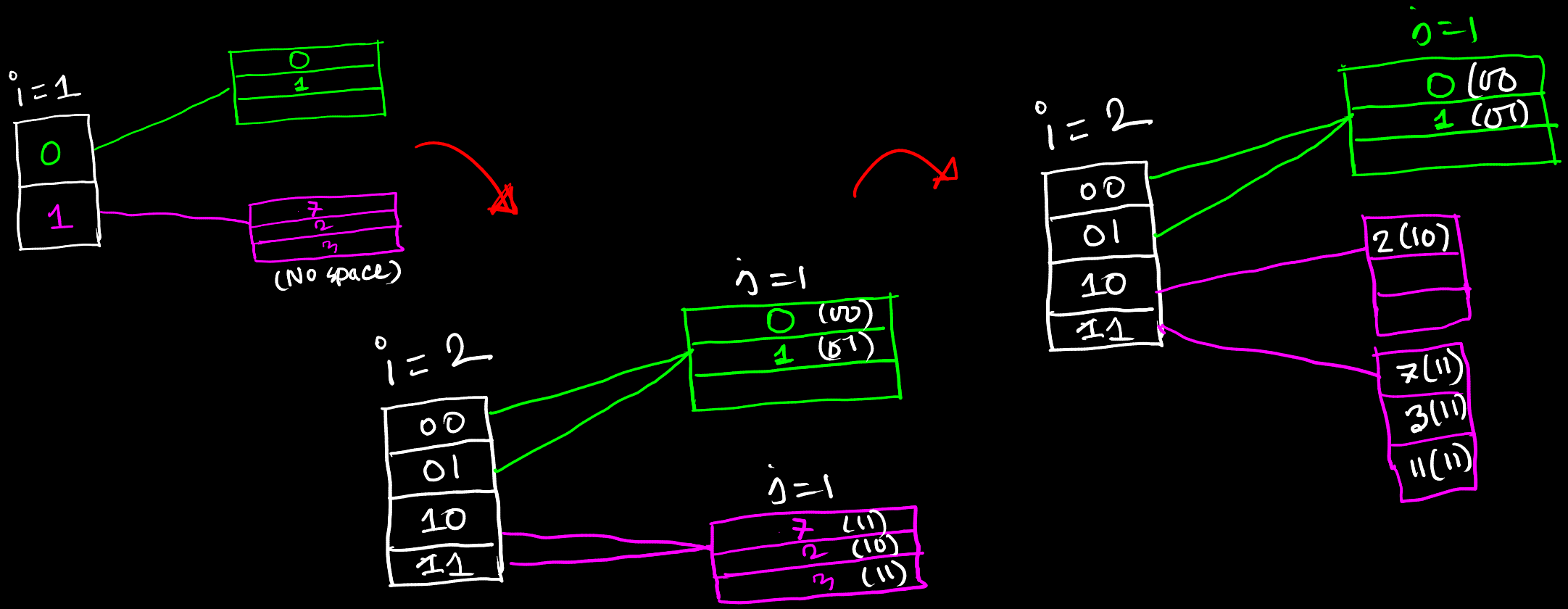


inserting 3 → h(3) = 3 mod 4 = 3 = 11
ith bit



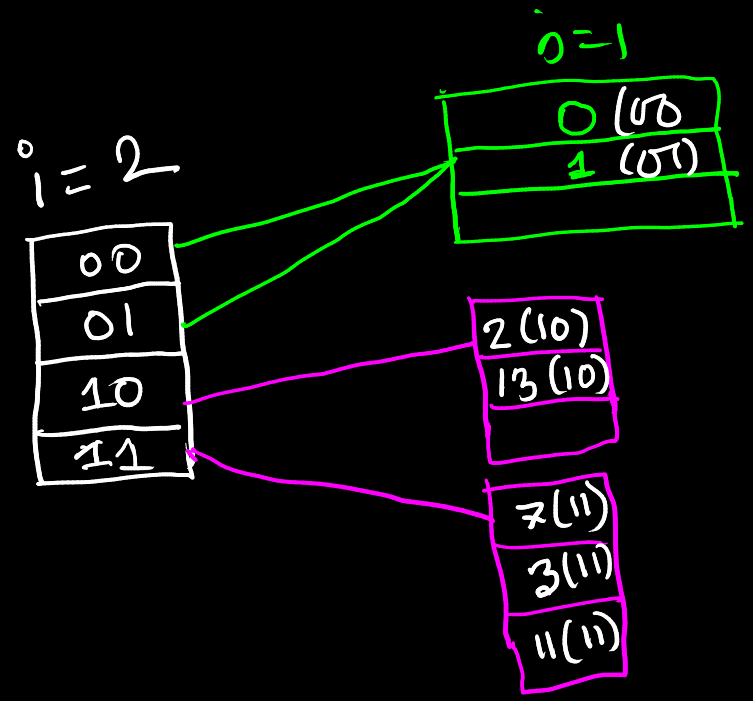
inserting 11 → h(11) = 11 mod 4 = 3 = $1^{1}_{\uparrow}$

ith bit



inserting 13 → h(13) = 13 mod 4 = 1 = 01

i bits



inserting 22 → h(22) = 22 mod 4 = 2 = 10

i bits