

# Extensible Hash Table

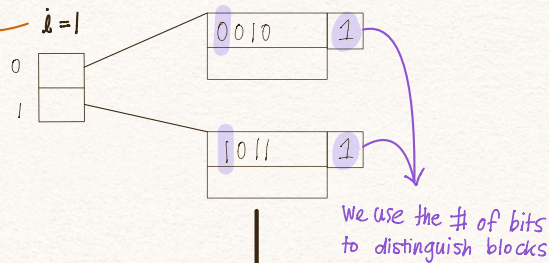
## Dynamic Hash Indexing Using Extensible Hash Table

↳ Allows hash index & no overflow in bucket

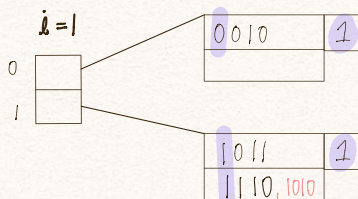
We use 'i' to determine the correct bucket

Gives a pointer to the buckets

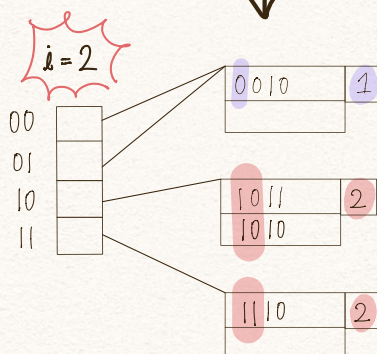
### Bucket Array



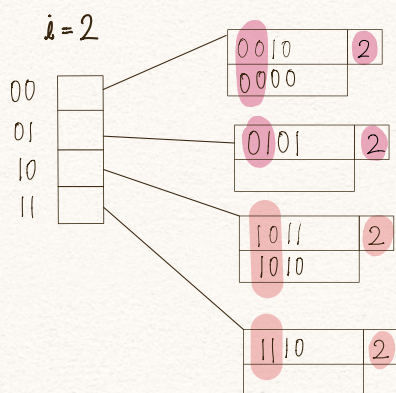
← Insert '1110'  
← Insert '1010'  
causing overflow



Extend the hash table (bucket array) from  $i=1$  to 2



← Insert '0000'  
← Insert '0101'

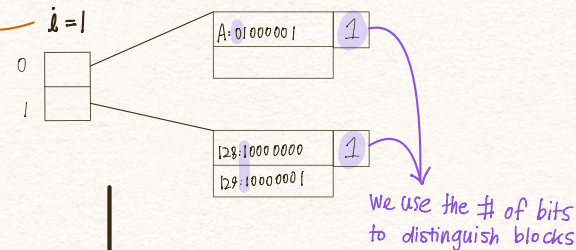


Sample Question: Given an extensible hash table,

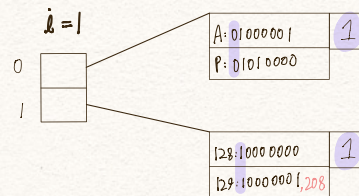
If a key is a letter → ASCII binary representation  
a number → binary representation

We use 'i' to determine the correct bucket

### Bucket Array

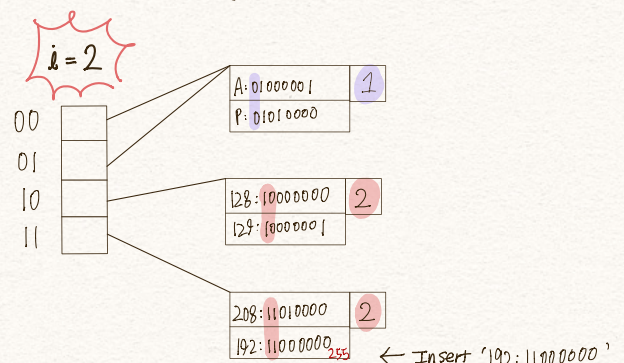


← Insert 'P: 01010000'



Extend the bucket array from  $i=1$  to 2

← Insert '208: 11010000'  
causing overflow



← Insert '192: 11000000'

Extend the bucket array from  $i=2$  to 3

← Insert '255: 11111111'  
causing overflow

