Hashmap

a

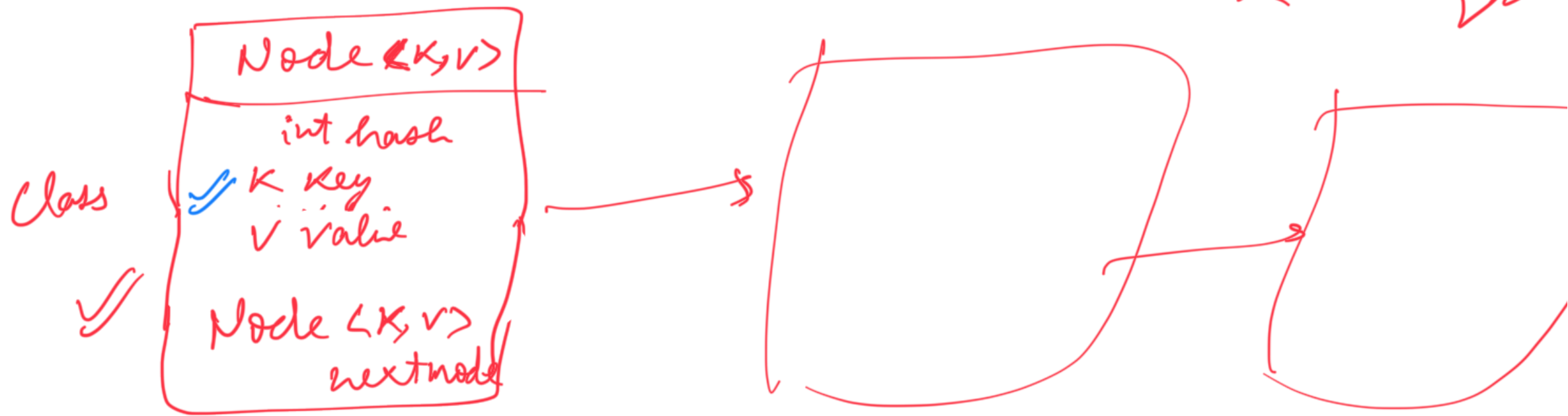**Hashing** → Process of converting object into integer

↳ It helps in indexing and faster searches

Hashmap →

↳ Collection

↳ Hashing

↳ Implements Map interface

↳ < Key , Value >

↳ Array of nodes

HashMap & Integer String
↳

Class

$\checkmark$

Node $\langle K, V \rangle$

int hash
K key
V value

Node $\langle K, V \rangle$
nextnode

$\rightarrow$ hash code ( ) $\rightarrow$ Bucket Number

$\rightarrow$ equals ( ) $\rightarrow$ Checks equality of two objects

$\hookrightarrow$ Compare the key

$\langle K_1, V_1 \rangle$ $\langle K_1, V_2 \rangle$

equals

Buckets →
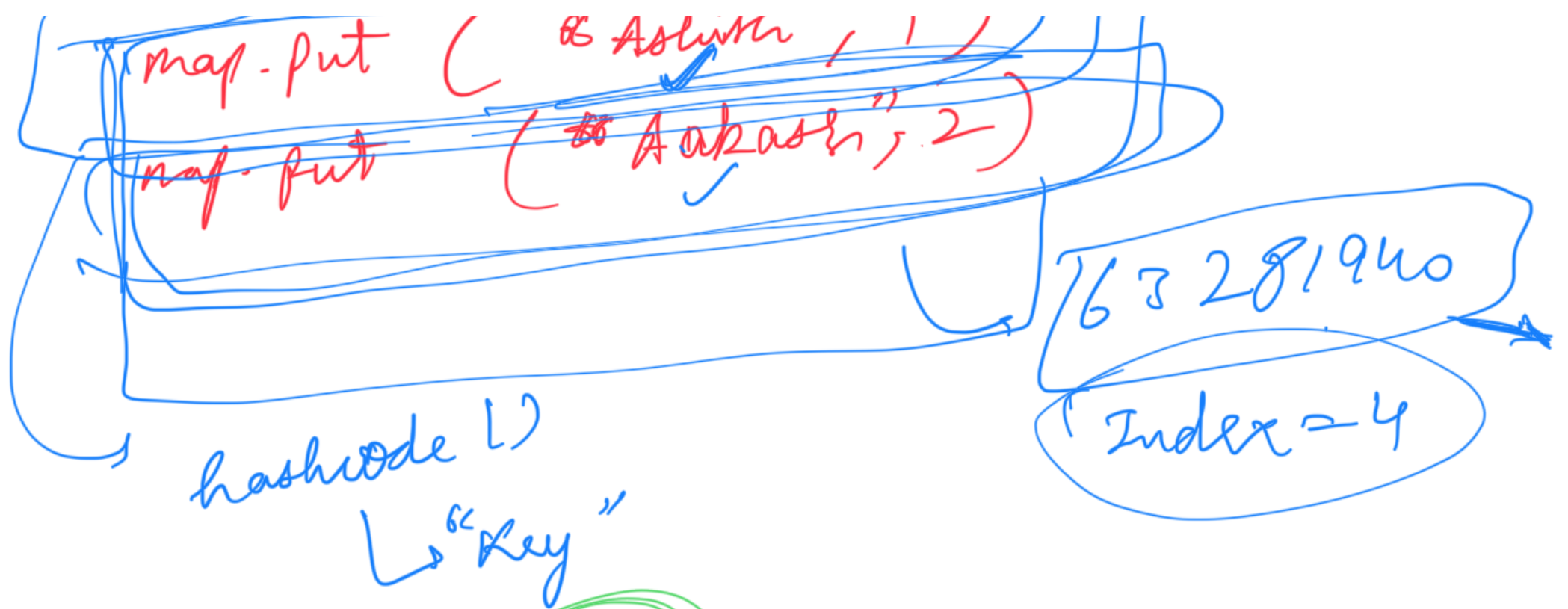
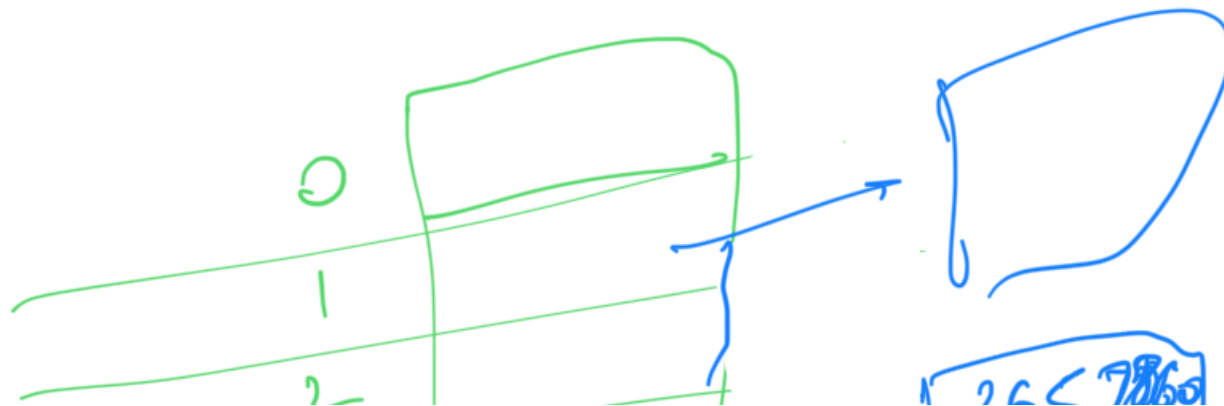N1   N2   N3

N1
N2
N3   Buckets
N4

0   N1   ——→ N2 ——→ N3

1   M1   M2   N3

2

3

Bucket

HashMap < String, Integer > .

map.put ("Ashish" , 1)

map.put ("Aakash" , 2)

63281940
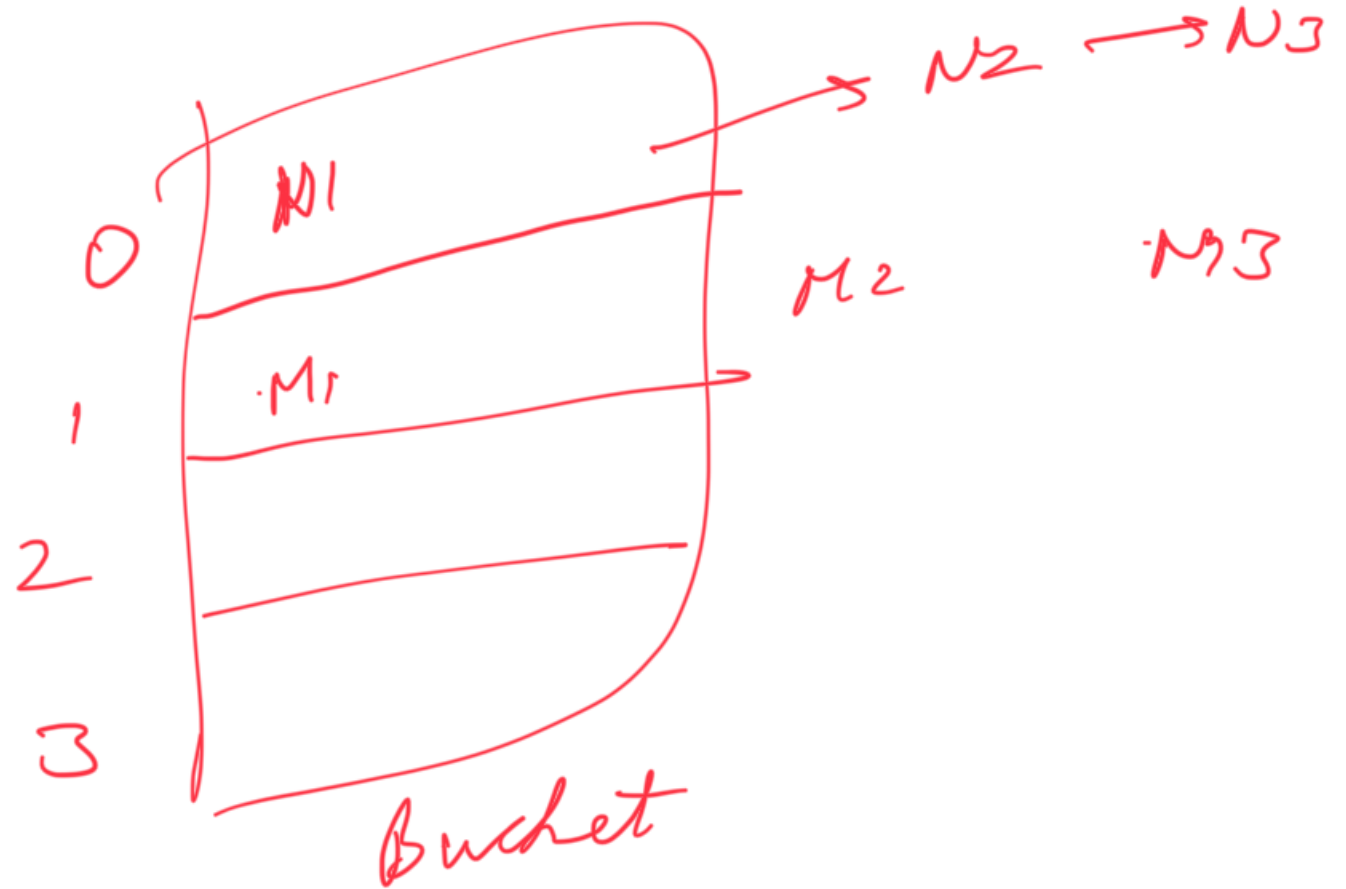
Index = 4

hashcode ()
  └→ "key"

hashCode ("Ashish") → 2857860

Index = hashcode & (n-1)   n = 16

     = 4

Hash Collision

3
4
5
6
7
8
9
10
11
12
13
14
15

Ashish

get ("Ashish")
hashcode
India