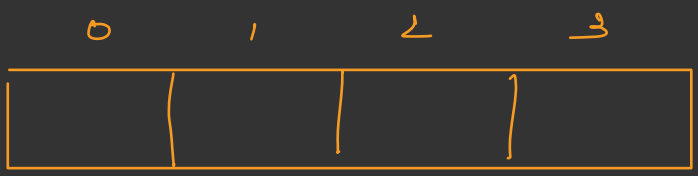
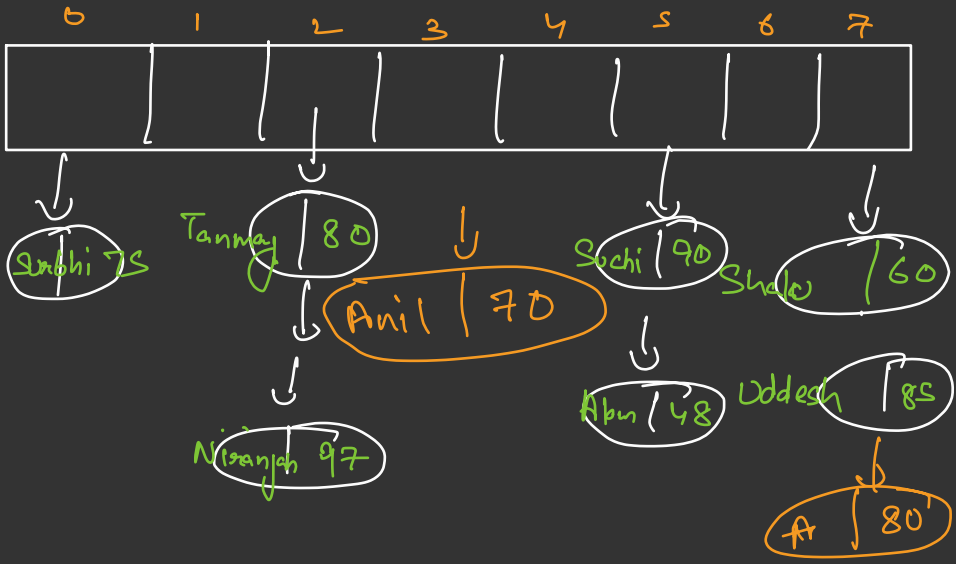
HM Node



$$\text{Load Factor} = \frac{n}{\text{count}}$$

$$\frac{7}{4}$$

1.7...



	put	get	remove	containsKey	Size	keySet
key present	update value		remove	true		
X	add	null	null	false		


```
LL<Node> buckets[];
buckets = new LL[4];
for(i=0; i< buckets.length; i++)
    buckets[i] = new LL<Node>();
```

put

```
int bi = hashFn(key);
int idx = getIndexInBucket(bi, key)
    if(idx == -1)
        add
    else
        update
```

getIndexInBucket(bi, key)

hashCode = Integer

2^{32}

"Newton school" → -17432

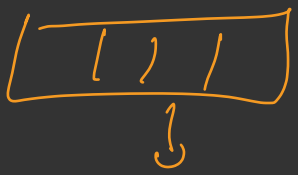
Object Class

hashCode()

hash fn → 0 - buckets.l - 1

⇒ % length

Tanmay ⇒ 42



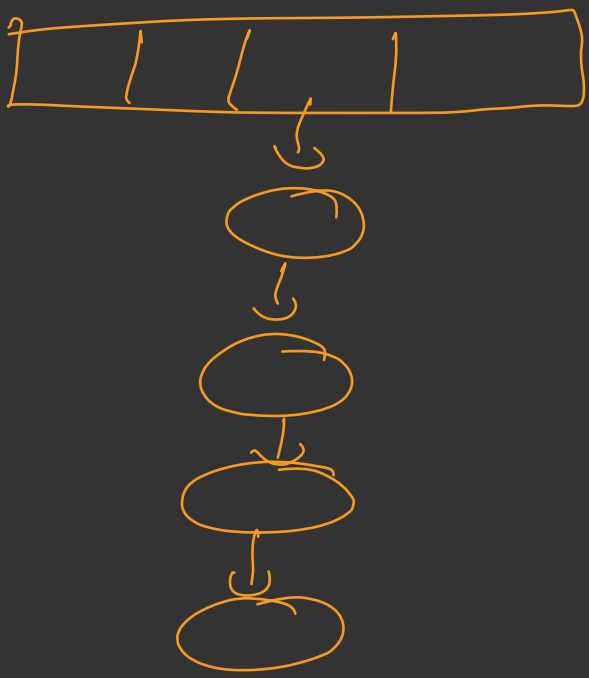
42 % 4 ⇒ 2

45 % 4 ⇒ 1

42 % 8 = 2

45 % 8 ⇒ 5

⇒ 2 % 2



Ques

11	1	7	8	6	2	5	3	10	14

1, 2, 3

5, 6, 7, 8,

10, 11

14

(1) Sort

0 1 2 3 4 5 6 7 8 9

1, 2, 3, 5, 6, 7, 8, 10, 11, 14

count = 1

max

start

(3)

Integer	Boolean
1	T
2	T
3	T
5	T
6	T
7	T
8	T
10	T
11	T
14	T

$n \log n + n$

$\rightarrow O(n \log n)$