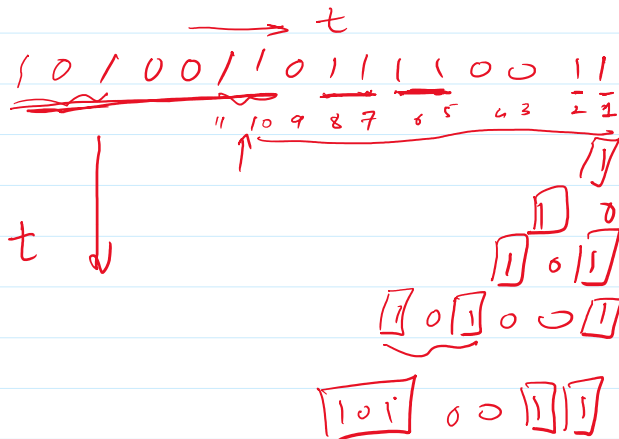


Online session from 11:15am to 12:15pm



How many 1's in last 10 transactions

$$8 = (1 + 1 + 2 + 2 + 4/2)$$

Filtering:

2, 3, 1, 6, 4, 5, 9

0	1	2	3	4	5	6	7	8	9	10
1	0	1	0	1	1	0	1	0	1	1

11

8

$$(8 \times 2 + 3) \% 11 = 19 \% 11 = 8$$

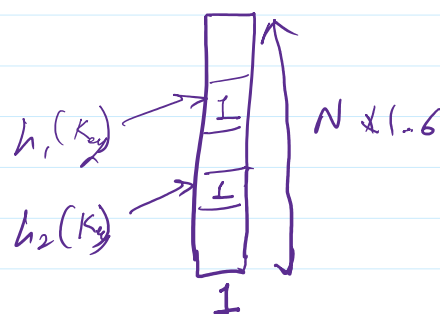
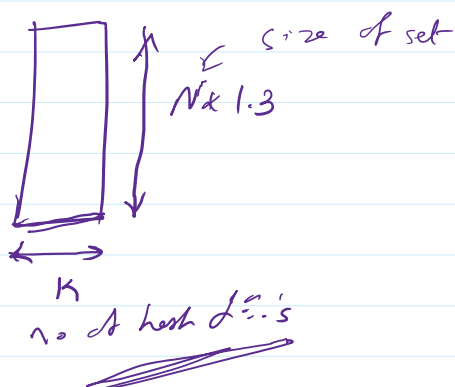
$$(Key \times 2 + 3) \% 11$$

8 \Rightarrow Not seen earlier

11 \Rightarrow Possibly seen earlier \Rightarrow

To reduce false tries, use multiple hash fⁿ

Memory space needed with each fⁿ having its own bucket/table



FM Algorithm \Rightarrow To count no. of distinct elements.

1, 2, 3, 2, 1, 4, 2, 3, 2, 4, 6, 4, 1

hash fⁿ (Key x 6 + 1) mod 11

	no.	hash f ⁿ val	Binary	5(a)	max(5(a))
1	1	7	111	0	
2	2	2	010	1	
3	3	8	1000	2	2

1	1	1	1 1 1.	0	} 3
2	2	2	0 1 0.	1	
3	3	8	1 0 0 0	3	
2	4	3	1 1.	0	
1	6	4	1 0 0	2	
4	7	10	1 0 1 0	1	

2 7 4 6 1

No of distinct elements = $2^3 = 8$

Assignment

1. Parameters & Methodology use to determine duplicate assignments.
2. Frequent Itemset min (Dwm: Apriori). As volume ↑ what are the drawbacks of Apriori & how are they overcome using
 - PC Y
 - Multihash