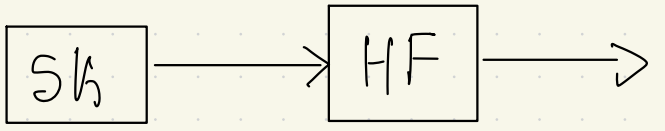
24/06/25

Static Hashing



→ generates an address
(Hash Address)
↓
data block की address

Hashing में no separate index file

SK	HA

↳ optional
(no need of indexing)

* Hashing by mul
* " " div

} hash function

st id = 10 = k

k mod 3
10 % 3 = 1

[st. id = 10 stored in data block 1]

Sk = CAT

static → no. of bucket and size will be fixed

Bucket = 10

C = 3

A = 1

T = 20

Sk = 24

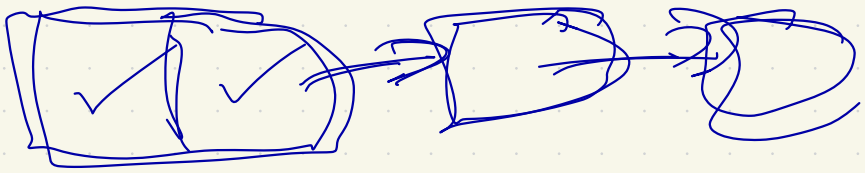
24 mod 10

= 4

(stored in no. 4 bucket)

Sk এর যেকোন bucket এও থাকতে পারে

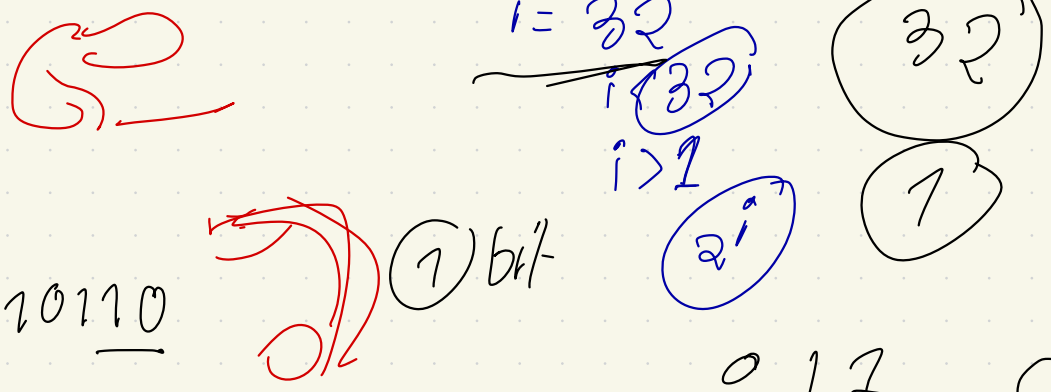
secondary index file is dense

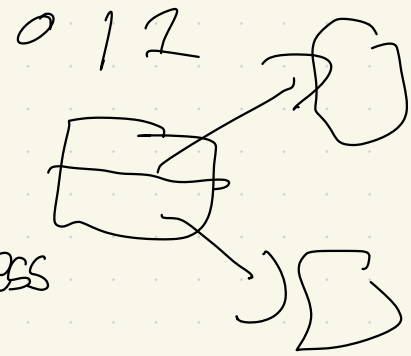


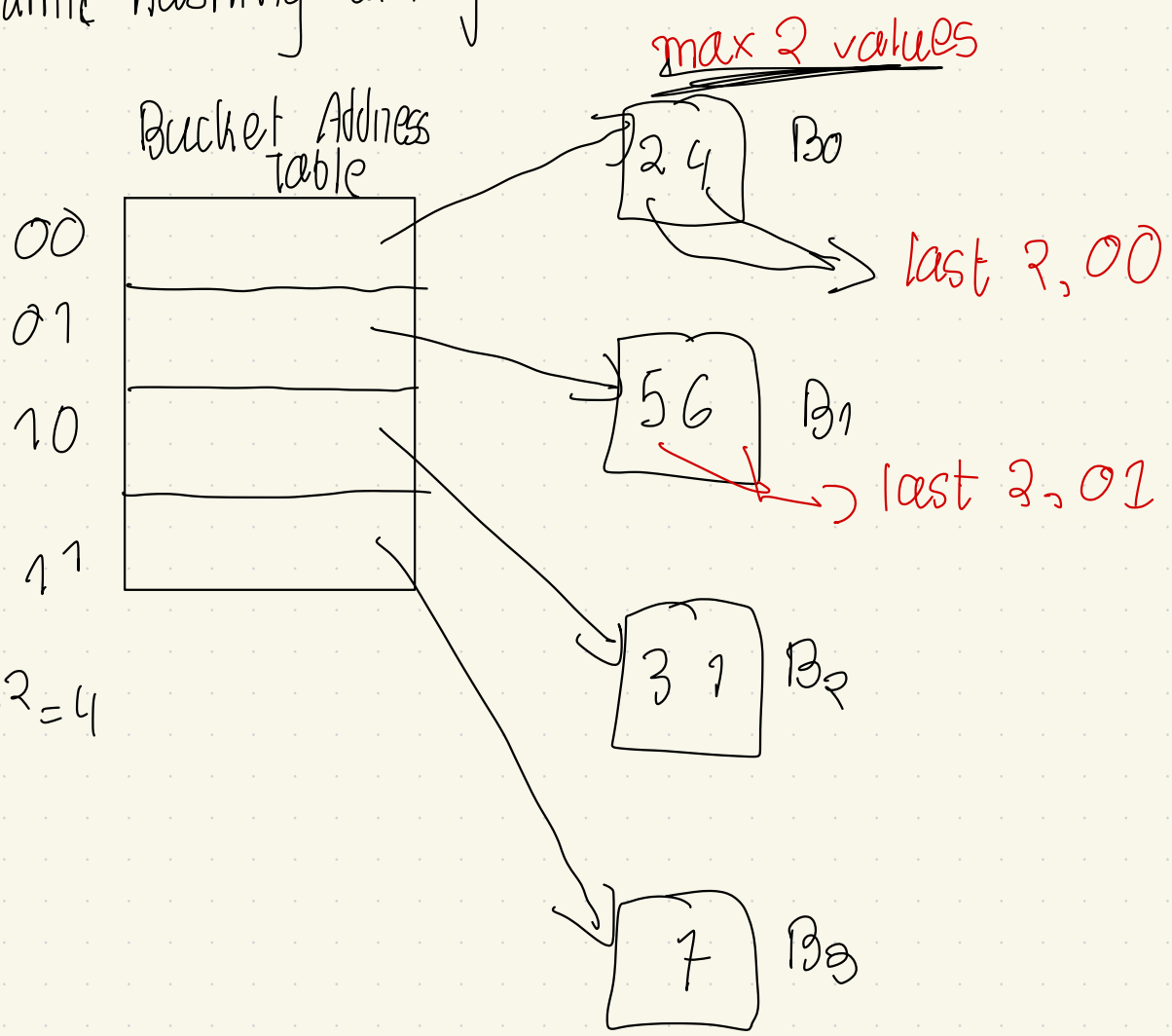
SK	HA
1	11010
2	00000
3	1110
4	00000
5	01001
6	10101
7	10111

2^i → rows in bucket table

dynamic hashing can generate 32 bit address



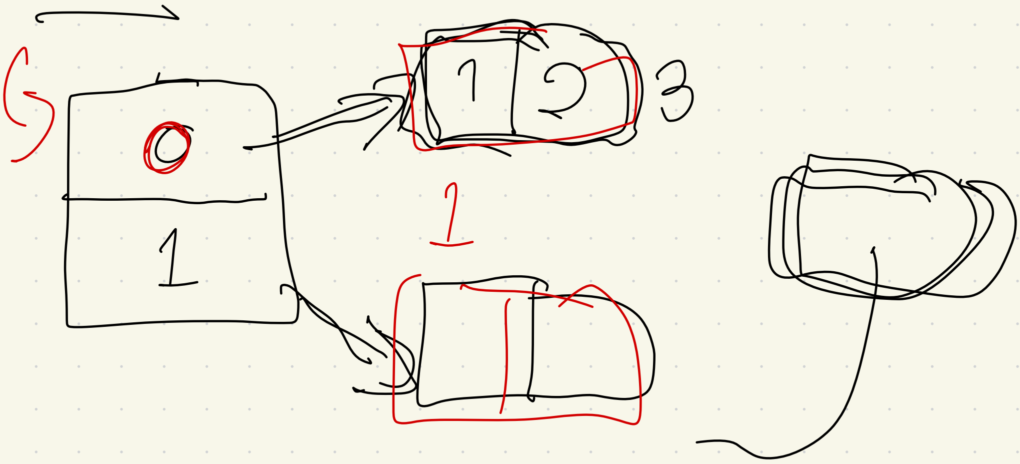




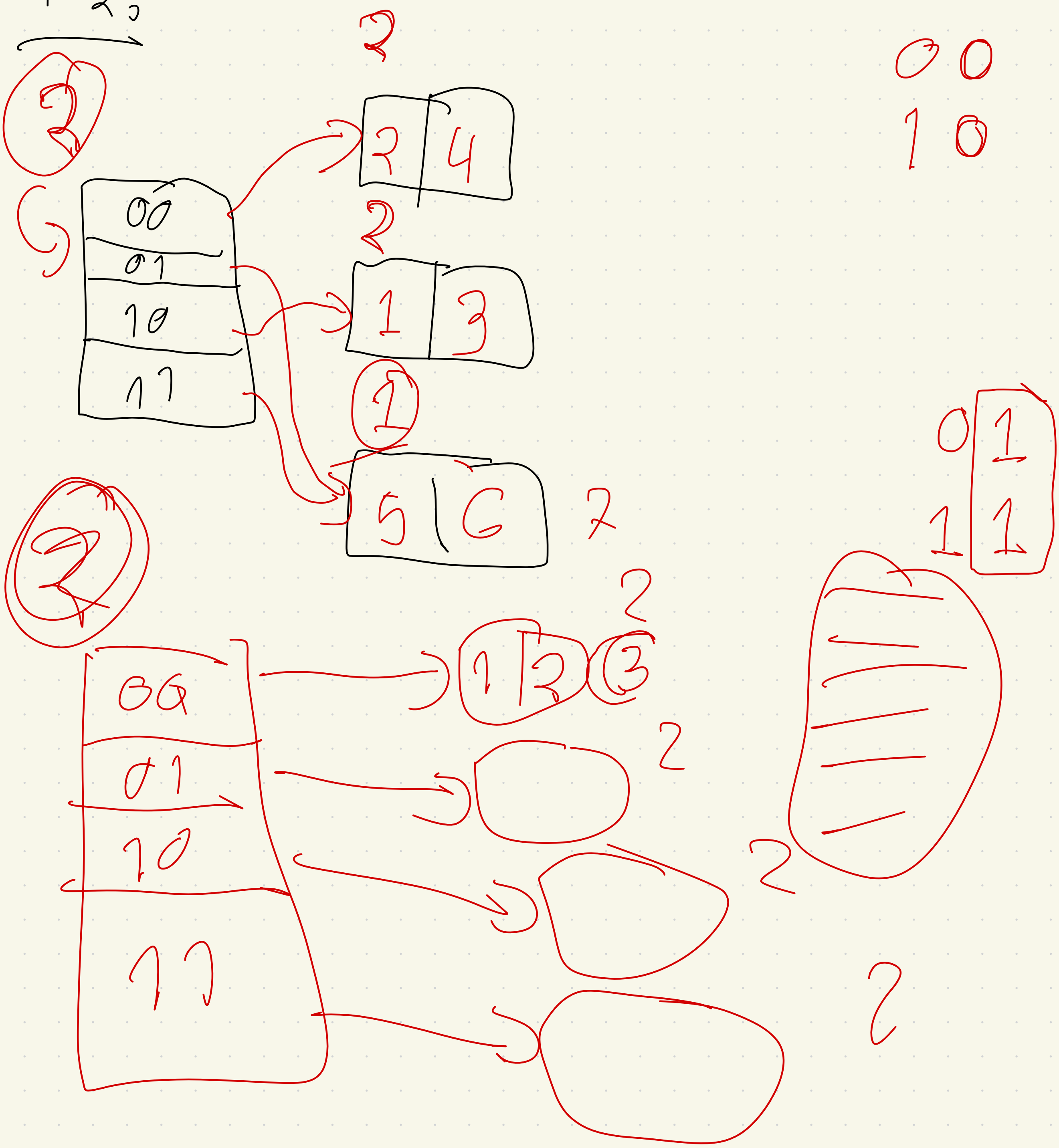
SK = 9, HA = 10001

but no space to add also if I add another bucket, no table now to link the bucket.

i = 1

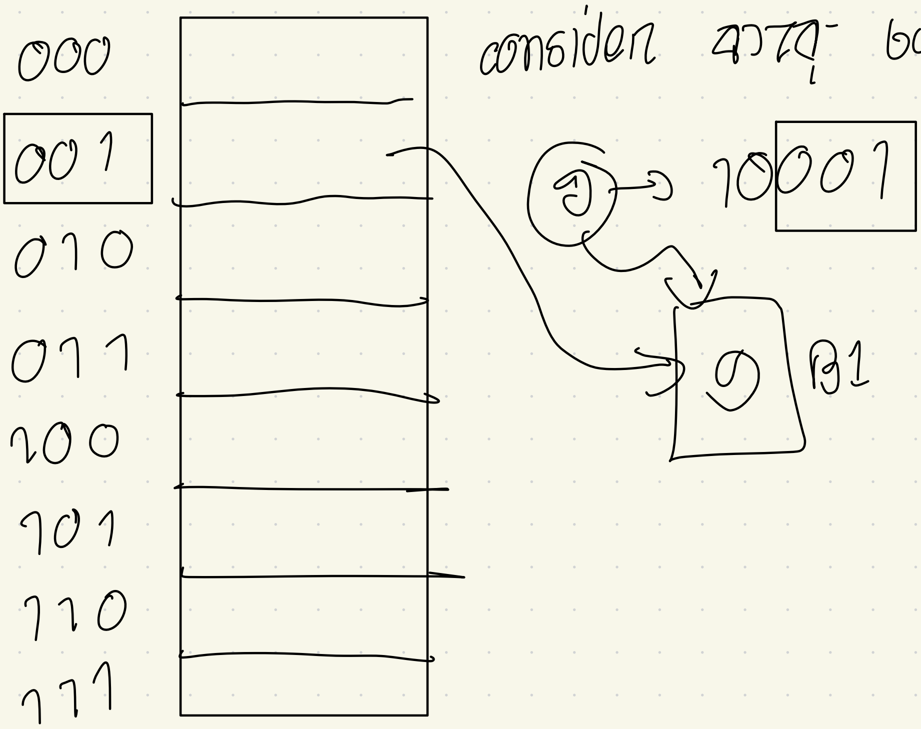


i = 2



Hence,
now we will increase the value of i which we took 2 initially. $i=3$ $2^3=8$

now shob value গুলোর last 3 bits consider করবো bucket ১৭ এখানে



12.64 slides → next কাজ

26/08/25

Ti	Tj
Ii	Ij(Q)
Ii	Ij(Q)

conflict:

① write operation

② same data

31/08/25

one schedule is serial and another is concurrent. They are equivalent if they have same no. of instructions and if they are consistent.

* Serial is always consistent

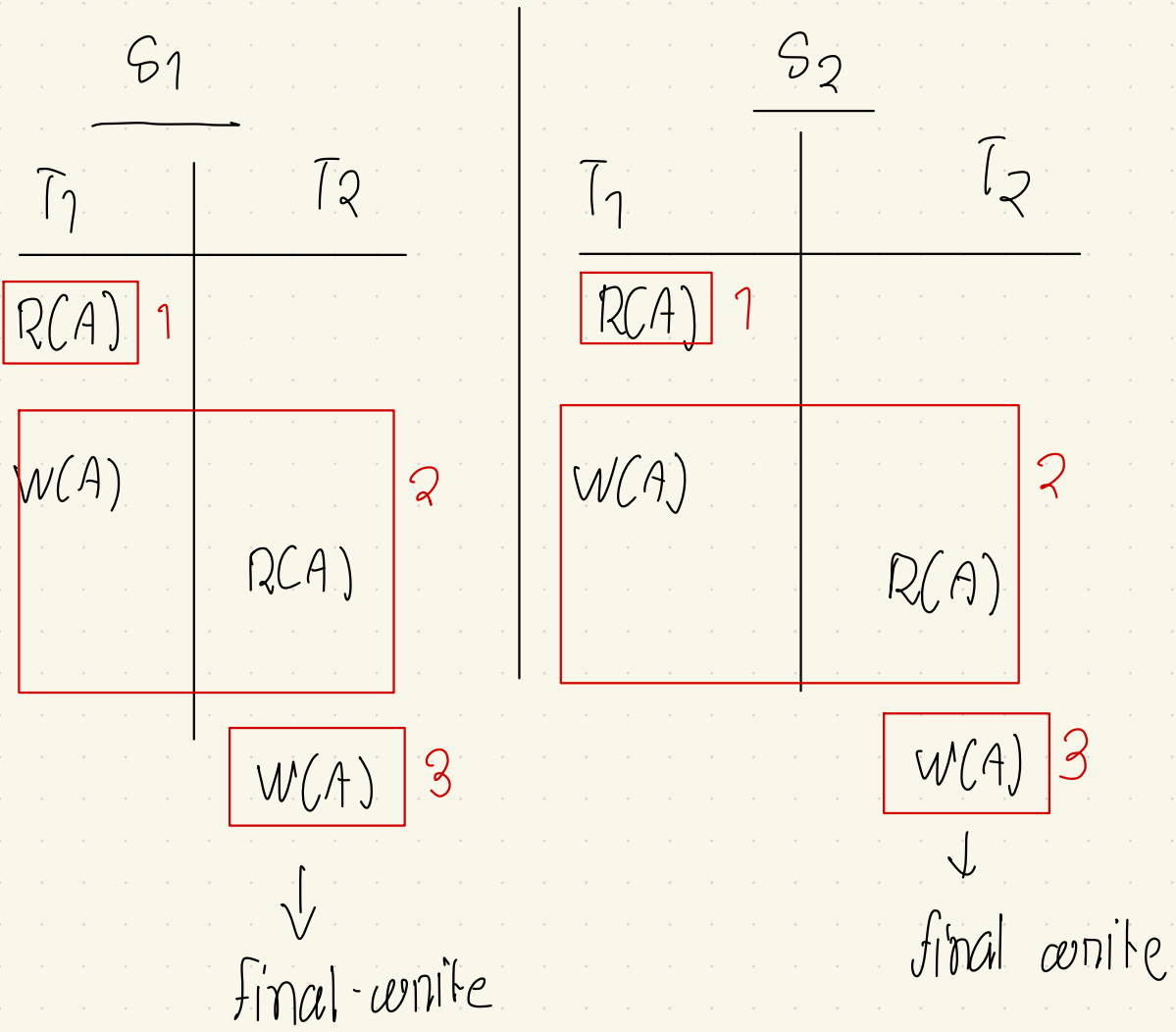
Consistency check

যেই schedule কে serial বানানো যাবে like equivalent to serial schedule করলে যাবে then will be made consistent.

(*) Same data তে ভিন্ন একটা write থাকলে conflict multiple read will be no conflict.

conflict equivalent → swap non-conflicting commands.

view serializability:



equivalent → all three conditions must fullfill কোন condition না হলে বাকি condition match করলে view equivalent.

if a transaction starts with write operation, that is called blind write. Those schedule are if view equivalent but not conflict equivalent.

(*) previous stable state is previously commit state.

(*) Cascaded roll back:

L> problem if too many transactions. Waste of time.

02/09/25

stable state -> commit

যার কোন dependent নেই অথবা commit করেছে

then read

T8	T9
read(A)	
write(A)	
	read(A)
write(A)	
commit	
	commit

Fig: Schedule-11

recoverable but T9 এ read(A) ভুল data read করে বসে আছে. so T9 কেও roll back করতে হবে

Q: what is cascading rollback?

write operation is not dependent.

cascadeless schedule is not serial schedule