

Agenda:

Candidate

Primary

Foreign Key

SQL:

create

Read

Update

Delete

→ upcoming

students

name, email, phone-no, PSP, batch

name X

email ✓

phone-no ✓

PSP X

batch X

(name, batch) X

email, name, batch ✓

email, batch, psp ✓

phone-no, psp ✓

CANDIDATE KEY

minimal set of col<sup>n</sup> which  
can uniquely identify identity row

email ✓

phone no ✓

(email, phone-no) X

student-id	class-id	attendance
1	5	70%
1	7	80%
2	5	90%

	SK	CK
attendance	X	X
class-id	X	X
one student ← student-id will attend multiple classes	X	X

(st-id, c-id, attendance) ✓ X

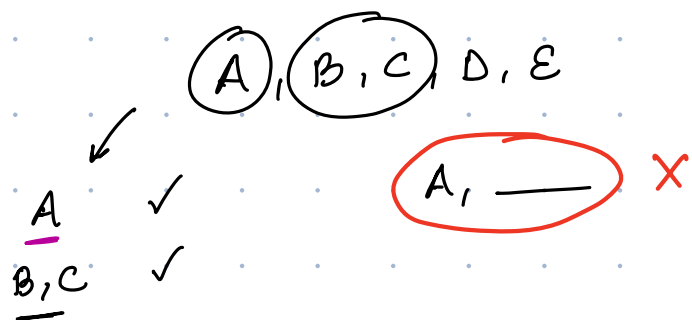
(st-id, c-id) ✓ ✓

Is a candidate key always a super key?

↓  
minimal  
set

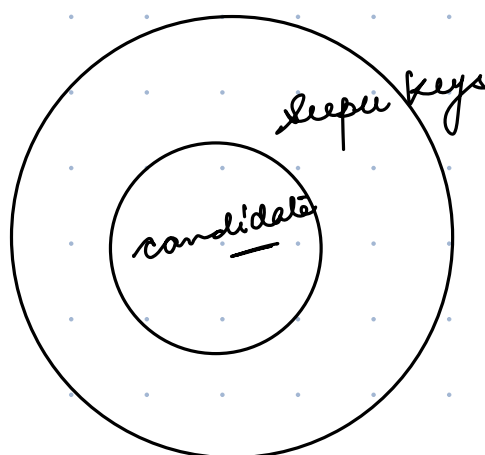
It should not  
contain any column  
which is not helping  
you to bring the uniqueness.

↓  
set of col<sup>m</sup> which  
can uniquely define  
a row



Is super key always a candidate key?

$A, B, C$  — super key  
If  $A$  can uniquely identify candidate X candidate



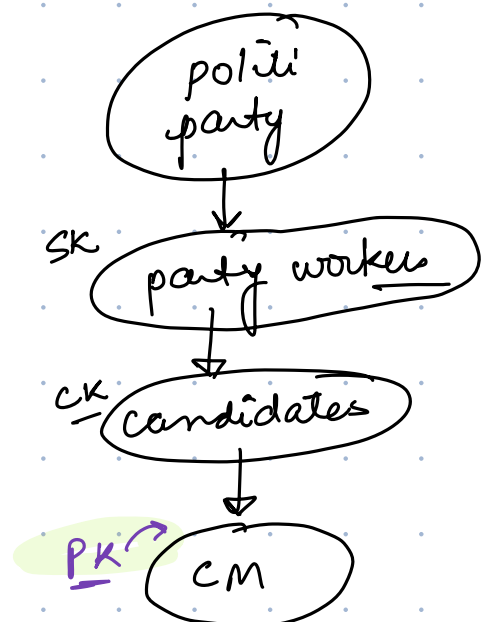
employees table!

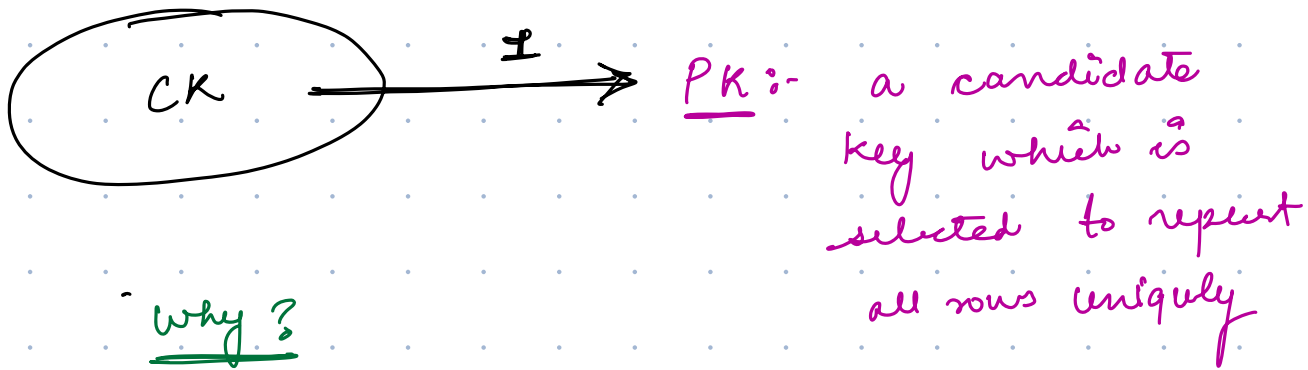
		SK	CK
A	emp- <u>id</u> , dept	✓	✗
B	<u>email</u>	✓	✓
C	FN, LN	✗	✗
D	lastN, dept.	✗	✗

emp-id — unique for everyone  
email — unique for everyone

emp-id, email ✗  
emp-id ✓  
email ✓

emp- <u>id</u>	✓
<u>email</u>	✓
FN, LN	✗
LN, dept	✗





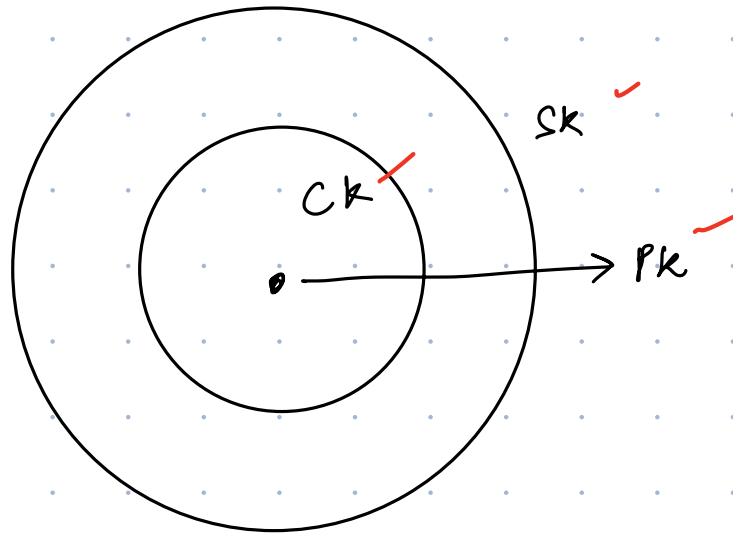
Why?

- databases stores the data in the order of PK.
- outputs the data in order of PK.
- creates an index on PK.  
↳ lot of optimisation

email

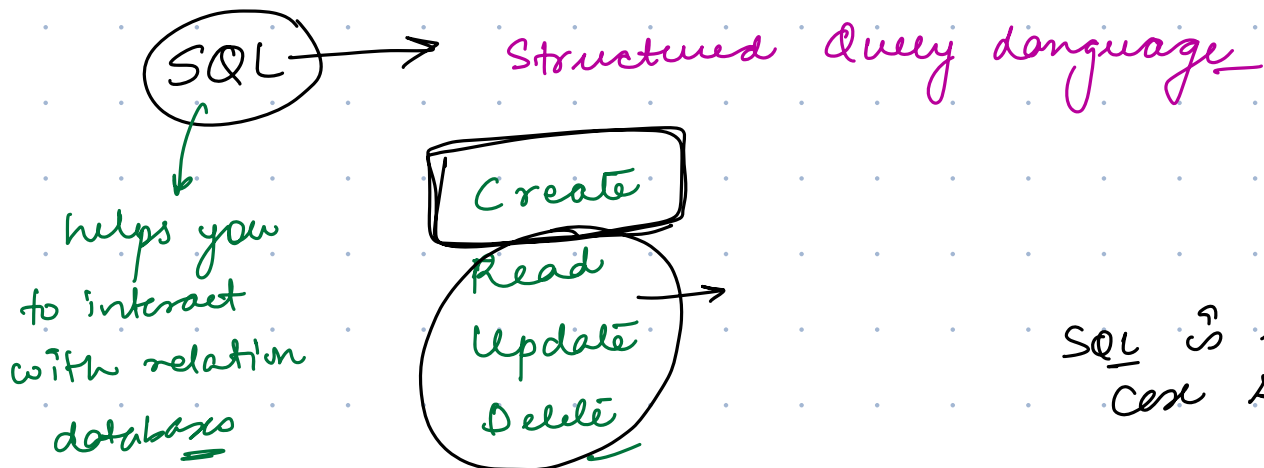
User is who is creating the schema decides the PK.

s-id  
↓  
sorting will be fast  
comparison is easy the steps  
it won't change  
size is small  
↑ (index)  
s.c



composite key

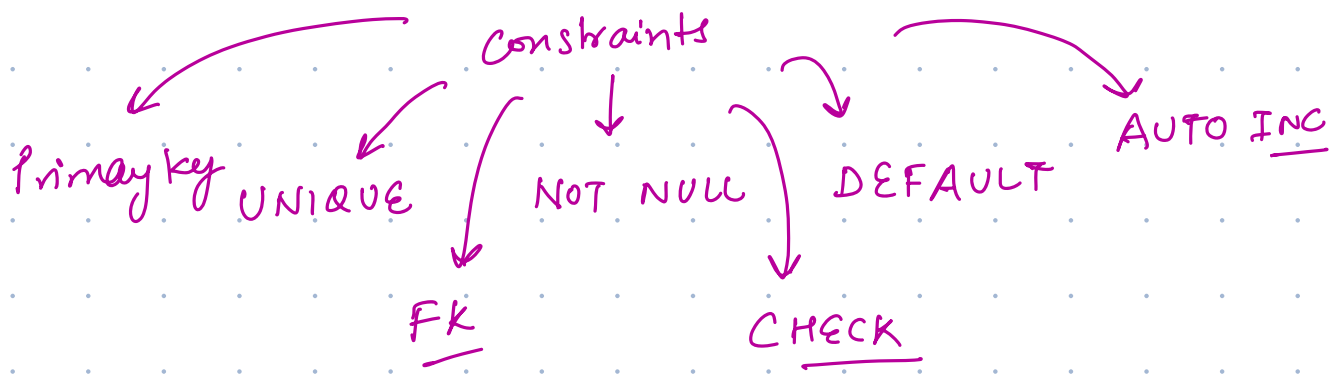
key made up of multiple col<sup>m</sup>



SQL is not case sensitive

```

Create table table-name (
    id int,
    email varchar(60),
    firstName varchar(60),
    lastName varchar(60),
    ;
);
  
```

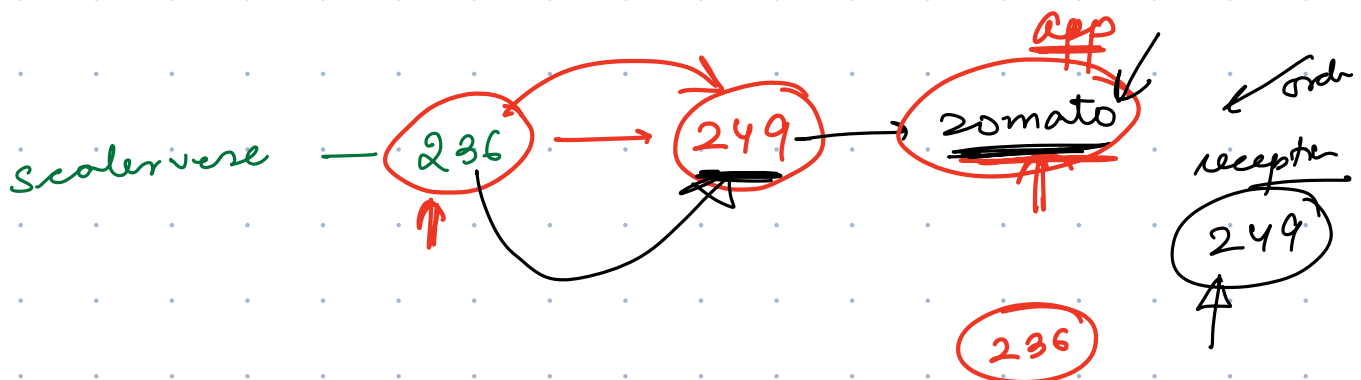


(column-name   data-type   constraint)

# Foreign Keys

Students					Batches		
s-id	name	email	b-id	↔	b-id	b_name	st-date

Student, batch  
name name → JOINS class

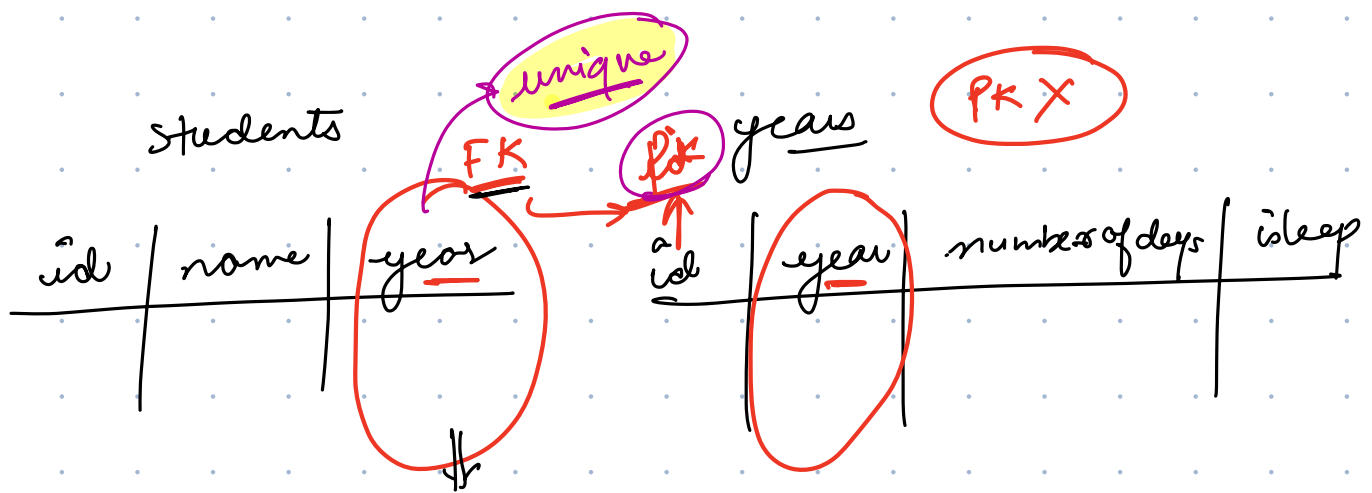


Students					Batches		
s-id	name	email	b-id	↔	b-id	b_name	st-date
1	X	x@..	2		1	abc	—
2	Y	y@	1		4	Dec 22	—
3	Z	z@	1		3	Nov 22	—
4	XYZ	xyz@	3				

FK

Data integrity  
issue





default → It won't allow you  
 DELETE or UPDATE

• NO ACTION

• CASCADE : Reflecting the changes in the table which contains the FK.

• SET NULL

↳ foreign key column should not have NOT NULL

• SET DEFAULT