table / relation

each row should be unique

Student

f_name	L_name	Roll no	d_id	email	m_no
Akhilesh	yadav	15	2	abc@gmail	
Apoorva	kr	30	5	a1@gmail.com	
mayur	yelmale	15	1	a2@gmail.com	
Akhilesh	yadav				

keys :- keys are combination of attributes that uniquely identify each tuple / row / record.

total combination = $2^n - 1$

Super keys : keys are combination of attributes that uniquely identify each tuple / row / record. it may contains some extra attributes than necessary.

	Super keys	candidate key
{ f_name }	✗	✗
{ f_name, l_name }	✗	✗
{ f_name, l_name, email }	✓	✗
{ f_name, email }	✓	✗
{ l_name, roll_no }	✗	✗
{ email }	✓	✓
{ l_name, roll_no, d_id }	✓	✗
{ roll_no, d_id }	✓	✓
{ m_no }	✓	✓

Candidate keys: A candidate key is minmal of super key.

{ ~~f_name~~, l_name, email }	✓	✗
{ ~~l_name~~, email }	✓	✗
{ email }	✓	✓

Primary key :

it should be unique.

A primary key is selected from candidate key.

by dB designer

it cannot be null.

m_no → as → primary key ✗

s_id → primary key

Primary key

s_id	f_name	L_name	Roll no	d_id	email	m_no
1	Akhilesh	yadav	15	2	abc@gmail	34T624
2	Apoorva	kr	30	5	a1@gmail.com	~~987954~~ 872345
3	mayur	yelmale	15	1	a2@gmail.com	389945
4	Akhilesh	yadav				976623

course

c_id	c_name	s_mno
1	abc.	987934
2	xyz	345624

- composite key : A composite is combination of

two or more attributes — composite key

{ roll_no, di_id } ✓

{ f_name, roll_no, d_id } ✗

* **foreign key:** A foreign key is an attributes that establishes a relation. it reference the primary key of another table.

PK

Student

foreign key

S_id	f_name	L_name	Roll no	d_id	email
1	Akhilesh	yadav	15	2	abc@gmail
2	Apoorva	kr	30	5	a1@gmail
3	mayur	yelmale	15	1	a2@gm
4	Akhilesh	yadav			

department — primary key

d_id	d_name	d_hod
1	abc	Aryan
2	xyz	Subrany

break till 9:25