DCL(Data Control Language)

It is an administrative Language . It is used to control user access in a database . It allow to restricts the user from accessing data in database

Operations that we can perform on Database using DCL

GRANT (to grant access to user)

REVOKE (to revoke access from the user)

- **GRANT** : it gives user access privilege to the database

Eg. GRANT ALL on student to suman

- **REVOKE** : It use to cancel previously granted or denied permission

  eg. REVOKE update on student from suman

Keys

- Key is used to Uniquely identify any record or row of data from table . And it is also used to establish and identify relationship between tables .

-Super Key keys
-Candidate keys
-Primary Keys
-Alternate Key
-Foreign Key

Super Keys

- A super key is a set of one or more attribute that taken collectively , allows us to identify uniquely a tuple in the relation

Emp Id	Emp name	Ctzn No	Email	dep_ Id
1	Suman	789	suman1@gmail.com	1
2	Sagar	894	sagar@gmail.com	2
3	Suman	779	suman2@gmail.com	3
4	Sunil	852	sunil@gmail.com	1
5	Suman		suman3@gmail.com	2
6	Suman	865		2

Student name	Subject	class
Hari	Dbms	11
Hari	Dbms	12
Nabin	C	11
Nabin	C	12
nabin	Dbms	11

{student name,subject,class}

{ emp Id}   {ctzn no}   {email}   {empid, name}   {empid, ctzn }

{emp id,email}   {empid,dep id}   {empid ,emp name, ctzn}

{empid , emp name, ctzn num,Email}   {empid, emp name,ctzn no,email,dep Id}
Etc………….

Candidate Key

- Minimal set of super keys called Candidate Key (we can pick pk from candidate key)
- All the keys which satisfy the condition of primary key is called candidate key

Emp Id	Emp name	Ctzn No	Email	dep_ Id
1	Suman	789	suman1@gmail.com	1
2	Sagar	894	sagar@gmail.com	2
3	Suman	779	suman2@gmail.com	3
4	Sunil	852	sunil@gmail.com	1
5	Suman		suman3@gmail.com	2
6	Suman	865		2

{ emp Id }   {ctzn no}   {email}

Student name	Subject	class
Hari	Dbms	11
Hari	Dbms	12
Nabin	C	11
Nabin	C	12
nabin	Dbms	11

{student name,subject,class}

Primary Key

- A key that can be used to uniquely identify a row in a table is called primary key

  -The value of primary key can never be NULL

  - The values of primary keys must always unique(not duplicate)

  - The value of Primary key never be changed

Emp Id	Emp name	Ctzn No	Email	dep_ Id
1	Suman	789	suman1@gmail.com	1
2	Sagar	894	sagar@gmail.com	2
3	Suman	779	suman2@gmail.com	3
4	Sunil	852	sunil@gmail.com	1
5	Suman		suman3@gmail.com	2
6	Suman	865		2

{Emp Id}

Alternate Key

- Alternate keys are those candidate keys which are not the primary key. there can be only one primary key remaining keys are called Alternate keys

Emp Id	Emp name	Ctzn No	Email	dep_ Id
1	Suman	789	suman1@gmail.com	1
2	Sagar	894	sagar@gmail.com	2
3	Suman	779	suman2@gmail.com	3
4	Sunil	852	sunil@gmail.com	1
5	Suman		suman3@gmail.com	2
6	Suman	865		2

{Ctzn No} {Email Id}

Foreign Key

- Foreign key is the column of the table that points the primary keys of another table . It is used to link two table together

p.k

Department id	Department name
1	Sales
2	Marketing
3	HR

Foreign key

Emp Id	Emp name	Ctzn No	Email	dep_ Id
1	Suman	789	suman1@gmail.com	1
2	Sagar	894	sagar@gmail.com	2
3	Suman	779	suman2@gmail.com	3
4	Sunil	852	sunil@gmail.com	1
5	Suman		suman3@gmail.com	2
6	Suman	865		2