Different Types of SQL Keys

Types of SQL Keys

We have following types of keys in SQL which are used to fetch records from tables and to make relationship among tables or views.

1. Super Key

Super key is a set of one or more than one keys that can be used to identify a record uniquely in a table. **Example :**Primary key, Unique key, Alternate key are subset of Super Keys.

2. Candidate Key

A Candidate Key is a set of one or more fields/columns that can identify a record uniquely in a table. There can be multiple Candidate Keys in one table. Each Candidate Key can work as Primary Key.

Example: In below diagram ID, RollNo and EnrollNo are Candidate Keys since all these three fields can be work as Primary Key.

3. Primary Key

Primary key is a set of one or more fields/columns of a table that uniquely identify a record in database table. It cannot accept null, duplicate values. Only one Candidate Key can be Primary Key.

4. Alternate key

A Alternate key is a key that can be work as a primary key. Basically it is a candidate key that currently is not primary key.

Example: In below diagram RollNo and EnrollNo becomes Alternate Keys when we define ID as Primary Key.

5. Composite/Compound Key

Composite Key is a combination of more than one fields/columns of a table. It can be a Candidate key, Primary key.

6. Unique Key

Uniquekey is a set of one or more fields/columns of a table that uniquely identify a record in database table. It is like Primary key but it can accept only one null value and it cannot have duplicate values. For more help refer the article.

7. Foreign Key

Foreign Key is a field in database table that is Primary key in another table. It can accept multiple null, duplicate values. For more help refer the article **Example :** We can have a DeptID column in the Employee table which is pointing to DeptID column in a department table where it a primary key.

Defined Keys -

```
1.    CREATE TABLE Department
2.   (
3.    DeptID int PRIMARY KEY,
4.    Name varchar (50) NOT NULL,
5.    Address varchar (200) NOT NULL, )
6.   CREATE TABLE Student
7.   (
8.    ID int PRIMARY KEY,
9.    RollNo varchar(10) NOT NULL,
10.   Name varchar(50) NOT NULL,
11.   EnrollNo varchar(10) UNIQUE,
12.   Address varchar(200) NOT NULL,
13.   DeptID int FOREIGN KEY REFERENCES Department(DeptID)
14.  )
```