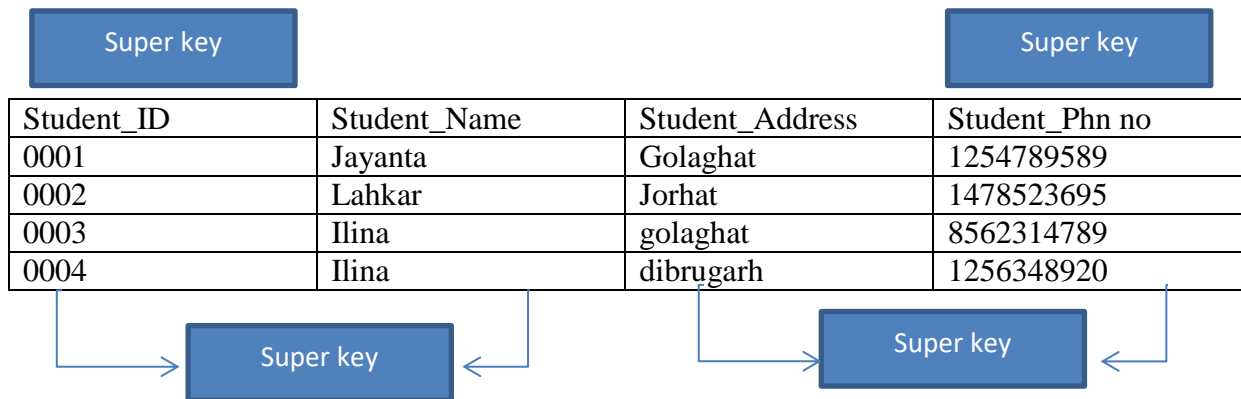


Key

Keys in DBMS are an attribute which helps us to identify a row or column uniquely and also make relationship between two tables. Helps us to find records.

Super key

Super key is a set of column or a combination of column which is used to uniquely identify a row in a table



Student_id unique for every row so it is a super key

(Student_id && Student_name) since student can have same name but their ID is different so combination of this two are super key.

Student_phn no is unique so it is super key

Primary key

Primary key is a column or group of column in a table that uniquely identify every row in the table. Primary key must be unique and can't be duplicate and not null. A table can have only one primary key

Student_ID	Student_Name	Student_Address	Student_Phno
0001	Jayanta	Golaghat	1254789589
0002	Lahkar	Jorhat	1478523695
0003	Ilina	golaghat	8562314789
0004	Ilina	dibrugarh	1256348920

Student_name && Student_Adresss can have same data so this attribute are not primary key

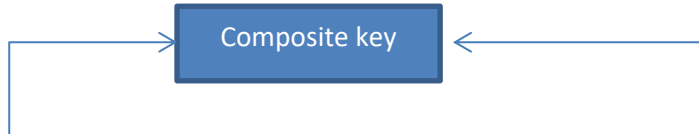
Student_Id && Student_phn no are unique and cannot have duplicate so we can consider them as primary key.

Primary key can be a combination of keys.

The value of primary key cannot be modify or update is it related to foreign key

Composite or Compound key

If one attribute is not enough to identify a row then we can combine more than one column to identify it. So composite key is a combination of key more than one use to identify a row uniquely. For composite key columns no need to unique. But after combine they must be unique



Student_ID	Student_Name	Sub_ID	Student_Phn no
0001	Jayanta	MATH	1254789589
0002	Lahkar	STATISTICS	1478523695
0003	Ilina	MATHS	8562314789
0004	Ilina	CHIEM	1256348920

One student can have more than one subject

One subject can be taken by more than one student

So to uniquely identify the row we need to combine this two column

Surrogate key

If a table doesn't contain natural primary key or a table doesn't contain a row which can be uses as a primary key then we use surrogate key to uniquely identify the rows. Surrogate key is an artificial key which distinctly identify every row of the table.

SL_NO	First Name	Last Name	Shift Start
1	Jayanta	Lahkar	7PM
2	Ilina	Lahkar	7PM
3	Matu	Kumar	6PM

Surrogate key

We just serially ordered the data in the table they do not provide any relation to the table.

Candidate key

If a super key doesn't have duplicate attribute known as candidate key. A table can have more than one candidate key and we need to choose a primary key among candidate key very carefully

Candidate key cannot be null and uniquely identify the row

Student_ID	Student_Name	Sub_ID	Student_Phn no
0001	Jayanta	MATH	1254789589
0002	Lahkar	STATISTICS	1478523695
0003	Ilina	MATHS	8562314789
0004	Ilina	CHIEM	1256348920

Candidate key

Candidate key

Alternate Key

Out of all possible Candidate key only one is selected as primary key and rest of the candidate key are known as alternate key.

Foreign Key

Foreign keys are the columns of a table that points to the primary key of another table. They act as a cross-reference between tables.

Prime and non- prime attribute

Attributes that form a candidate key of a relation, i.e. attributes of candidate key, are called prime attributes. And rest of the attributes of the relation are non-prime.

E.g. for the relation {roll no, name, city, phone no}

{Roll no} is a candidate key and hence roll no is a prime attribute and name, city, phone no are non-prime attributes.

