Course Name: **A Level (1ˢᵗ Sem)**   Subject : **Introduction to DBMS**
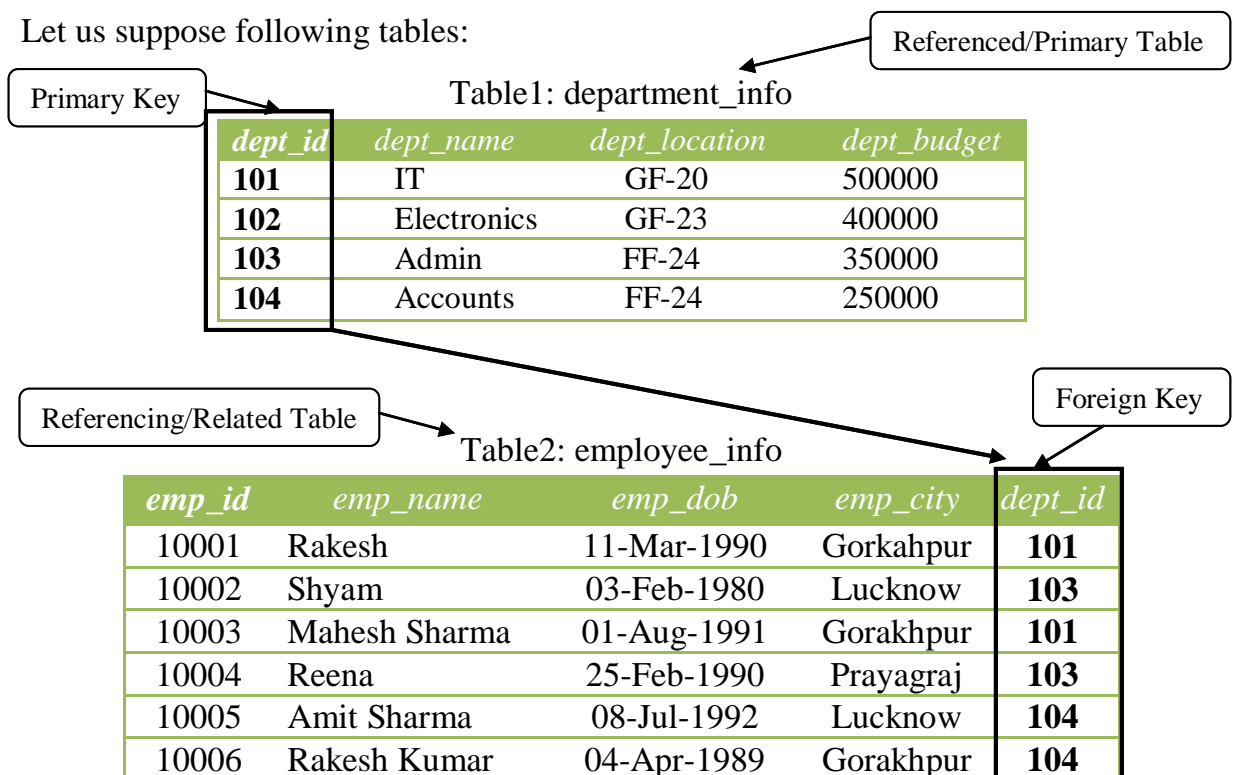Topic: **Keys in RDBMS (Part 4)**   Date: **27-Mar-2020**

Foreign Key:

Foreign key is/are column(s)/attribute(s) of a table that point to the primary key or candidate key of another table. They act as a cross-reference between two tables.

Foreign key creates relationship between two tables. It helps to maintain data integrity which is known as "Referential Integrity Constraints".

The table/relation which is being referenced is called **referenced/primary table** and corresponding attribute is called **referenced attribute** and the relation which refers to referenced relation is called **referencing/related table** and corresponding attribute is called **referencing attribute**

Let us suppose following tables:

Referenced/Primary Table

Primary Key

Table1: department_info

dept_id	dept_name	dept_location	dept_budget
101	IT	GF-20	500000
102	Electronics	GF-23	400000
103	Admin	FF-24	350000
104	Accounts	FF-24	250000

Foreign Key

Referencing/Related Table

Table2: employee_info

emp_id	emp_name	emp_dob	emp_city	dept_id
10001	Rakesh	11-Mar-1990	Gorkahpur	101
10002	Shyam	03-Feb-1980	Lucknow	103
10003	Mahesh Sharma	01-Aug-1991	Gorakhpur	101
10004	Reena	25-Feb-1990	Prayagraj	103
10005	Amit Sharma	08-Jul-1992	Lucknow	104
10006	Rakesh Kumar	04-Apr-1989	Gorakhpur	104

> ### ✚ dept_id is primary key in department_info table
>
> ### ✚ dept_id is foreign key in employee_info table.
>
> It means that dept_id field of employee_info table can have only those value which are present in dept_id field of department_info table.
>
> ✚ dept_id field in department_info table is for unique identification of the records in the table.
>
> ✚ dept_id field in employee_info table is for knowing which employee is working on which department.

> *There are some important differences between primary foreign key*
>
> ➢ Primary key cannot be NULL; on the other hand foreign key can be NULL.
>
> ➢ **The foreign key field can have only those values which are present in primary key field of another table.**
>
> ➢ The values of Primary key are always unique while foreign key field can have duplicate values.
>
> ➢ There is one and only one primary key in a table, but we can have more than one foreign key in a table.

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Exercises:

1. Explain another example of foreign key.