

Course Name: **A Level (1st Sem)**
Topic: **Keys in RDBMS (Part 3)**

Subject : **Introduction to DBMS**
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“A key is an attribute or set of attributes in a table/relation which helps to identify a row/tuple or record uniquely.”

Composite Key:

A key that consists of two or more than two attributes that uniquely identify rows in a table is called Composite key. The attribute which together form the composite key are not a key independently or individually.

Sometime there may be case when a single attribute is not able to identify rows uniquely in a table, but the combination of other attributes makes it such that these combinations can uniquely identify records/rows in table.

Let us suppose following relation/table:

Table: salary_info

<i>emp_id</i>	<i>sal_month</i>	<i>sal_year</i>	<i>absent</i>	<i>leave</i>	<i>total_salary</i>
10001	01	2020	0	1	20000
10002	01	2020	0	0	30000
10003	01	2020	0	2	25000
10001	02	2020	0	0	20000
10002	02	2020	0	1	30000
10003	02	2020	0	0	25000

In the above table, no single attribute is able to uniquely identify each record, but the combination of attributes $\{emp_id, sal_month, sal_year\}$ makes it possible to uniquely identify each record in the table.

Composite key in above table are:

1. $\{emp_id, sal_month, sal_year\}$

Surrogate Key

A surrogate key is an artificial generated key which aims to uniquely identify each record in a table. It is implemented when table has no natural key.

The example of surrogate key includes incremented sequential integer, system current date/time stamp or random alphanumeric string etc.

In the **table:salary_info**

(emp_id, sal_month, sal_year, absent, leave, total_salary)

We can introduce the field/attribute **sal_id** (an incremented integer) which aims to uniquely identify each record in the table.

Table: salary_info

<i>sal_id</i>	<i>emp_id</i>	<i>sal_month</i>	<i>sal_year</i>	<i>absent</i>	<i>leave</i>	<i>total_salary</i>
1	10001	01	2020	0	1	20000
2	10002	01	2020	0	0	30000
3	10003	01	2020	0	2	25000
4	10001	02	2020	0	0	20000
5	10002	02	2020	0	1	30000
6	10003	02	2020	0	0	25000

{sal_id} will be surrogate key for above table.

Non Key Attribute

Non Key Attributes are those attributes that are other than Candidate key attributes in the table.

Non Prime Attribute

Non Prime Attributes are those attributes that are other than Primary key attributes in the table.



Exercises:

1. Identify any example of composite key in relational table.
2. Identify any example of surrogate key in relational table.