



RELATIONAL DATABASE AND RELATIONAL MODEL

BY
K.KARTHIKEYAN

4/29/2020

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RELATIONAL DATABASE



- The relational database or model uses a **collection of tables** to represent both data and the **relationships among those data**.
- It is **record based model**
- **The contains one or more columns and each column has unique name**
- Each table contains records (**fields or attributes**)

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RELATIONAL DATABASE - For Example



- Consider the example of employee table in which information about the employee is stored.

E_ID	E_NAME	Mobile no
456	ravi	7894561231
457	karthik	9876543212
458	Kumar	9856742135

Each row of the table indicates the information about employee details

D_ID	D_NAME	Landline No
101	Production	2233456
102	Mechanical	2233457
103	Metalogical	2233458

D_iD associated with D_name ,Land line No

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Cont..



E_ID	D_ID
456	101
457	102
458	103

E_ID associate with D_ID

From this third table we can easily find out that the employee to which the E_ID is work the department

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Relational Database (Cont..)



- **Advantage :**
 - Structure independence
 - Conceptual (Theoretical) Simplicity
 - A powerful database management system
- **Disadvantage**
 - Transaction Process is not efficient
 - Processing time is low
 - Powerful hardware is needed
 - To poor implementation of DBMS

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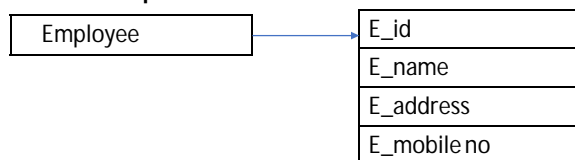
Relational model



- **Table** - Table is a collection of data items arranged in rows and columns
- **Tuple** - The single entry in the table is called tuple.

E_id	E_name	E_address	E_mobile no
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- **Attribute** - it is a part of table that contains several records.



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Cont..



- Relation schema

```
CREATE DATABASE databasename;
CREATE TABLE table_name (
    column1 datatype,
    column2 datatype,
    column3 datatype,
);
```

Describe about the relation
Name of the table

Attributes

- Relation instance – it refers to specific instance of relation.

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Cont..



- Null Attribute

a null is a special symbol independent of datatype which mean either unknown or inapplicable.

E_ID	E_NAME	Mobile no
456	ravi	7894561231
457	karthik	9876543212
458	Kumar	9856742135
459	Jovit	Null

- Degree – total no.of column present in the relational database.
- The degree -3

E_ID	E_NAME	Mobile no
456	ravi	7894561231

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Cont..



- Cardinality – Total No.of tuples present in the relational database.

E_ID	E_NAME	Mobile no
456	ravi	7894561231

- Cardinality - 2



Activity



Problem



- Find out the following for given staff table
 1. No.of columns
 2. No.of tuples
 3. Different attributes
 4. Degree
 5. Cardinality

Staff id	Name	Sex	Designation	Salary	DOJ
551	Kavi	M	AP	25000	20-oct-2008
552	Selvi	F	AP - I	35000	20-july-2009
553	tamil	F	AP-II	45000	20-dec-2010



Thank you