RELATIONAL DATABASE AND RELATIONAL MODEL

1/12

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)

2/12

4/29/2020

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

D_iD associated with D_name ,Land line No

3/12

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

4/12

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
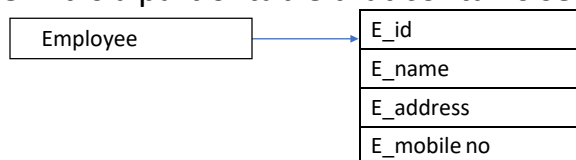 - To poor implementation of DBMS

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5/12

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

- Attribute - it is a part of table that contains several records.

Employee

→

E_id
E_name
E_address
E_mobile no

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6/12

Cont..

- Relation schema

    CREATE DATABASE *databasename*;

    CREATE TABLE *table_name* (

> Describe about the relation
> Name of the table

        column1 datatype,
        column2 datatype,
        column3 datatype,
            );

> Attributes

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

7/12

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

8/12

4

Cont..

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

E_ID	E_NAME	Mobile no
456	ravi	7894561231

- Cardinality - 2

9/12

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