

BCA Part –III

Paper XX: RDBMS

Topic: Relational Model

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Relational model can represent as a table with columns and rows. Each row is known as a tuple. Each table of the column has a name or attribute.

Domain: It contains a set of atomic values that an attribute can take.

Attribute: It contains the name of a column in a particular table. Each attribute A_i must have a domain, $dom(A_i)$

Relational instance: In the relational database system, the relational instance is represented by a finite set of tuples. Relation instances do not have duplicate tuples.

Relational schema: A relational schema contains the name of the relation and name of all columns or attributes.

Relational key: In the relational key, each row has one or more attributes. It can identify the row in the relation uniquely.

Example: STUDENT Relation

NAME	ROLL_NO	PHONE_NO	ADDRESS
Ram	14795	7305758992	Noida
Shyam	12839	9026288936	Delhi
Laxman	33289	8583287182	Gurugram
Mahesh	27857	7086819134	Ghaziabad

Ganesh	17282	9028 9i3988	Delhi
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- In the given table, NAME, ROLL_NO, PHONE_NO, ADDRESS, and AGE are the attributes.
- The instance of schema STUDENT has 5 tuples.
- $t_3 = \langle \text{Laxman}, 33289, 8583287182, \text{Gurugram}, 20 \rangle$

Properties of Relations

- Name of the relation is distinct from all other relations.
- Each relation cell contains exactly one atomic (single) value
- Each attribute contains a distinct name
- Attribute domain has no significance
- tuple has no duplicate value
- Order of tuple can have a different sequence