

20 March 2020

Computer Science, IInd Year (Morning)

Subject - DBMS

### Relational Model

Relational Model was proposed by E.F Codd to model data in the form of relation or tables. After designing the Conceptual Model of Database using ER diagram, we need to convert the Conceptual Model in the relational model. which can be implemented by using any RDBMS language like ORACLE, SQL, my SQL etc.

Relational Model represent how data is stored in relational databases. A Relational Database stores in the form of (tables). Consider a Relation STUDENT with attributes Roll-No, NAME, ADDRESS, PHONE and AGE shown in Table.

STUDENT

ROLL.No.	NAME	ADDRESS	PHONE	AGE
1	A	Delhi	123	19
2	B	Gurgaon	456	18
3	C	ROHTAK	789	19
4	D	Delhi	156	NULL

→ Blank Space

### Important Terms

- 1) Attributes: Attributes are the properties that define a relation e.g.; ROLL-NO, NAME.
- 2) Relational Schema :- A relational Schema represent name of the relation with its



Attributes eg.; STUDENT (ROLL-NO, NAME, ADDRESS, PHONE and AGE) is relation schema for STUDENT. If a schema has more than 1 relation. It is called relational schema.

3) Tuple :- Each row in the relation is known as Tuple. The above relation contains 4 Tuple.

4) Relation Instance :- The set of tuples of a relation at a particular instance of time is called as relation instance.

Table 1 show the relation instance of STUDENT at a particular time. It can change whenever there is insertion, deletion or updation in the database.

5) Degree :- The number of attributes in the relation is known as degree of the relation. The Student relation defined above has degree 5.

6) Cardinality :- The number of tuples in a relation is known as cardinality. The STUDENT relation defined above has Cardinality 4.

7) Column :- Column represent the set of values for a particular attribute the Column ROLL-NO is extracted from



Relation STUDENT.

NULL values :- The value which is not known or unavailable is called NULL value. It is represented by BLANK SPACE  
eg :- phone of students having Roll.No 4 is NULL.

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