

## Chapter: 2

## Basic Concept and Terminology of Databases

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## Multiple Choice Questions

Q 1: The concept of database evolved from:

- ☐ (A) Computers ☒ (B) Traditional File management system  
☐ (C) Software ☐ (D) Hardware

Q 2: The number of characters in fixed - length field is:

- ☒ (A) Constant ☐ (B) 5 ☐ (C) 255 ☐ (D) Variable

Q 3: The number of characters in variable - length field is:

- ☐ (A) Constant ☐ (B) 5 ☐ (C) 255 ☒ (D) Variable

Q 4: A Insert command is used to insert:

- ☒ (A) A new record ☐ (B) new column ☐ (C) A view ☐ (D) A new table

Q 5: The row of table is also called:

- ☐ (A) Entity ☐ (B) Attributes ☐ (C) Cell ☒ (D) Record

Q 6: An attribute is also known as:

- ☐ (A) Record ☐ (B) Row ☒ (C) Field ☐ (D) Tuple

Q 7: Atomicity means:

- ☒ (A) Individual value in a cell ☐ (B) Individual value in a table  
☐ (C) Individual value in a row ☐ (D) Individual value in a tuple

Q 8: Another name for the file is called:

- ☐ (A) Collection records ☐ (B) Row ☒ (C) Dataset ☐ (D) Tuple

Q 9: The column(s) of a relation correspond to:

- ☒ (A) Table ☐ (B) Cell(s) ☐ (C) Field(s) ☐ (D) Records

Q10: The columns of a table correspond to:

- ☐ (A) Table ☐ (B) Record ☒ (C) Field ☐ (D) Cell

Q11: The following represents an entity:

- ☐ (A) Car ☐ (B) Student ☐ (C) House ☒ (D) All of these

Q12: Teachers, students and cars are example of:

- ☐ (A) Relationships ☒ (B) Entity ☐ (C) Attributes ☐ (D) Identifiers

Q13: A table is also called:

- ☐ (A) Two-dimensional array ☐ (B) Relation  
☒ (C) Both A & B ☐ (D) Key

Q14: A table is a two - dimensional array that consists of:

- ☐ (A) Matrix elements ☐ (B) x and y coordinates  
☐ (C) Intersection of data ☒ (D) Columns and rows



Q15: Following two objects cannot have the same name in a database:

- ☒ (A) Tables      ☐ (B) Rows      ☐ (C) Database      ☐ (D) Records

Q16: CREAT TABLE command is used to create a:

- ☒ (A) Table      ☐ (B) View      ☐ (C) Report      ☐ (D) Query

Q17: In the Relation, following is insignificant:

- ☐ (A) Name of relation      ☐ (B) Number of records  
☒ (C) Order of rows      ☐ (D) Size of relation

Q18: The following is / are the property / properties of relation:

- ☐ (A) Each attribute has a different name      ☐ (B) No multivalued attributes  
☐ (C) No two rows are the same      ☒ (D) All of these

Q19: SQL is used for:

- ☐ (A) Data manipulation      ☐ (B) Data definition  
☐ (C) Data deletion      ☒ (D) All of these

Q20: Views are used to:

- ☐ (A) Hide SQL statements      ☐ (B) Hide columns  
☐ (C) Hide rows      ☒ (D) All of these

Q21: Views are also called:

- ☐ (A) Complex tables      ☒ (B) Simple tables  
☐ (C) Virtual tables      ☐ (D) Actual tables

Q22: A virtual table that is constructed from other tables is called:

- ☐ (A) Tuple      ☐ (B) Table      ☒ (C) View      ☐ (D) Report

Q23: Following helps the database system to run smooth and fast:

- ☐ (A) Computer      ☐ (B) Software      ☐ (C) Table      ☒ (D) Index

Q24: A key is:

- ☒ (A) A unique field that identifies a record      ☐ (B) The first field of a table  
☐ (C) The most important field in a table      ☐ (D) The last field of a table

Q25: A table must have a:

- ☒ (A) Primary key      ☐ (B) Secondary key      ☐ (C) Composite key      ☐ (D) Sort key

Q26: The following is the most suitable example of a primary key:

- ☐ (A) Name      ☐ (B) Birth date      ☐ (C) Address      ☒ (D) NIC number

Q27: How many primary keys can exists in a relation?

- ☐ (A) Al least two      ☒ (B) Only one  
☐ (C) No limit      ☐ (D) More than one

Q28: Following key consists of two or more than two attributes of a table:

- ☒ (A) Composite key      ☐ (B) Foreign key  
☐ (C) Primary key      ☐ (D) Sort key



Q29: Which of the following is also known as control key?

- ☐ (A) Foreign key      ☐ (B) Composite key      ☐ (C) Primary key      ☒ (D) Sort key

Q30: Foreign key is found in:

- ☐ (A) Parent Table      ☒ (B) Dependent Table      ☐ (C) Pivot Table      ☐ (D) Index table

Q31: Following serves as a bridge between end users and database administrator:

- ☒ (A) Data administrator      ☐ (B) Application programmer      ☐ (C) System analyst      ☐ (D) None of these

Q32: A person who is responsible for the organization of entire data of an organization is called:

- ☐ (A) DBA      ☒ (B) DA      ☐ (C) Administrator      ☐ (D) System administrator

Q33: DBA stands for:

- ☐ (A) Database application      ☒ (B) Database administrator  
☐ (C) Database access      ☐ (D) Dual base administrator

Q34: A person who is responsible for the security and maintenance of database is called:

- ☒ (A) DBA      ☐ (B) DA      ☐ (C) User      ☐ (D) System administrator

Q35: Insert command is used to insert:

- ☐ (A) A new table      ☒ (B) A new record      ☐ (C) A view      ☐ (D) Dependencies

Q36: CREATE command is used to create a:

- ☒ (A) Table      ☐ (B) View      ☐ (C) Report      ☐ (D) Query

Q37: SQL is used for:

- ☐ (A) Data definition      ☒ (B) Data definition and manipulation  
☐ (C) Data manipulation      ☐ (D) Searching records

Q38: The foreign key is found in:

- ☐ (A) Parent table      ☒ (B) Dependent table      ☐ (C) Pivot table      ☐ (D) Index table

Q39: A table must have:

- ☒ (A) Primary key      ☐ (B) Secondary key      ☐ (C) Composite key      ☐ (D) Sort key

Q40: Views are also called:

- ☐ (A) Complex Tables      ☒ (B) Simple Tables      ☐ (C) Virtual Tables      ☐ (D) Actual Tables

Q41: To find all names start with M from student table, the criteria is:

- ☒ (A) Like " M? "      ☐ (B) Like " M# "      ☐ (C) Like " M- "      ☐ (D) Like " M\* "

Q42: A virtual Table that is constructed from other tables is called:

- ☐ (A) Tuple      ☐ (B) Table      ☒ (C) View      ☐ (D) Report



**Short Questions****Q1: Define relation.**

Ans: In a relational database, the table in which data is stored is called a relation. Collection of rows and column is called table. Each intersection of a row and column is called cell. Table contains the descriptive information about an entity. Table is also called relation. Each file in a file management system corresponds to a table in database management system.

**Q2: What is an Entity?**

Ans: Anything about which we want to store data is called an entity. It can be a person, place or event, etc. Entity always has a unique name within a domain.

**Q3: What is the use of views?**

Ans: Views are Virtual table used to keep data safe and secure from unauthorized access. Unlike an ordinary table in a relational database, a view is not a part of a physical schema. It is a dynamic, virtual table computed from data in the database. Changing the data in a table alters the data shown in the view.

**Q4: What is a key?**

Ans: A key field is a field or set of fields of a database table which together form a unique identifier for a database record. The aggregate of these fields is usually referred to simply as "the key". A key field also defines searches.

**Q5: Define the primary key.**

Ans: In a relation the attribute or a combination of attributes that uniquely identifies a row or a record. e.g. A social security number, ISBN, student roll number, etc.

**Q6: Define secondary key.**

Ans: A secondary key is a non-unique field that is used as a secondary or alternate key. Sometimes records are required to be accessed by a field other than the primary key. In these situations another key that is used is called secondary key or alternate key.

**Q7: Define candidate key.**

Ans: There can be more than one keys or key combinations that qualify to be selected as primary key. In a relation there can be only one primary key at a time. Rest of the keys or key combinations are called candidate keys.

**Q8: Define composite key.**

Ans: Composite key consists of two or more than two fields. Composite key is also designated as a primary key. It is created in a situation when no single field fulfills the property of uniqueness. To make unique more than one field are combined and used as primary key.

**Q9: Define sort key.**

Ans: A field or a set of fields in a record that dictates the sequence of the file according to our requirement. For example the sort keys STATE and NAME arrange the table data alphabetically by name within state. STATE is the major sort key, and NAME is the minor sort key.



**Q10: What is the use of index file?**

Ans: Indexes are stored in index file. DBMS uses index files to speed up the sorting and searching operations.

**Q11: Who is end user?**

Ans: It is the person who uses the database management system for his need. He must have knowledge of information technology. He does not need to have the detail knowledge of the computer system. He should be aware of the usage details of the software he intends to use.

**Q12: Who is the data administrator?**

Ans: The DA department is responsible for the definition, organization, supervision and protection of data in order to provide good quality, shareable and accessible data throughout the enterprise. The Data Administrator manages a staff that is responsible for establishing and implementing the Data Administration Program.

**Q13: Who is database administrator?**

Ans: A database administrator (DBA) is a person who is responsible for the environmental aspects of a database. In general, these include:

- **Recoverability**: Creating and testing backups.
- **Integrity**: Verifying or helping to verify data integrity.
- **Security**: Defining and/or implementing access controls to the data. .
- **Availability**: Ensuring maximum up time.
- **Performance**: Ensuring maximum performance given budgetary constraints.
- **Development and testing support**: Helping programmers and engineers to efficiently utilize the database.

**Q14: List two properties of a relation.**

Ans: Properties of a relation:

- It has unique column names.
- The order of the columns is insignificant.
- The order of row is insignificant.

**Q15: Discuss the data manipulation in DBMS system?**

Ans: Data manipulation of database management system is different from file management system. In database management system:

- Data is stored in relation or tables.
- A database may have more than one relation with unique names.
- Relations in a database relate to each other using primary and foreign keys.
- DBMS uses index to quickly access the data stored in relation.
- Database query language i.e. SQL is used for data manipulation in database.