

# 18 Session and 900 questions

## SESSION 1 – DBMS & MySQL

### EASY MCQs (1–20)

#### 1. What does DBMS stand for?

- A. Data Backup Management System
- B. Database Management System
- C. Data Business Management Software
- D. Database Modeling System

**Answer:** B

---

#### 2. Which of the following is a collection of related data?

- A. File
- B. Program
- C. Database
- D. Table

**Answer:** C

---

#### 3. Which component stores actual data in a database?

- A. Query
- B. Table
- C. Schema
- D. View

**Answer:** B

---

#### 4. Which DBMS model organizes data into tables?

- A. Hierarchical
- B. Network
- C. Relational
- D. Object-based

**Answer:** C

---

**5. MySQL is an example of which type of DBMS?**

- A. NoSQL
- B. Object-Oriented
- C. Relational
- D. Hierarchical

**Answer:** C

---

**6. What is a row in a table called?**

- A. Attribute
- B. Field
- C. Tuple
- D. Domain

**Answer:** C

---

**7. What is a column in a table called?**

- A. Tuple
- B. Attribute
- C. Record
- D. Schema

**Answer:** B

---

**8. Which key uniquely identifies a record?**

- A. Foreign key
- B. Composite key
- C. Candidate key
- D. Primary key

**Answer:** D

---

**9. Which command is used to view databases in MySQL?**

- A. SHOW DATABASES;
- B. LIST DATABASES;

- C. DISPLAY DATABASES;
- D. GET DATABASES;

**Answer:** A

---

#### **10. Which MySQL client is command-line based?**

- A. MySQL Workbench
- B. MySQL Monitor
- C. phpMyAdmin
- D. HeidiSQL

**Answer:** B

---

#### **11. Which database stores data in documents?**

- A. MySQL
- B. Oracle
- C. MongoDB
- D. PostgreSQL

**Answer:** C

---

#### **12. What does SQL stand for?**

- A. Structured Query Language
- B. Simple Query Language
- C. System Query Language
- D. Sequential Query Language

**Answer:** A

---

#### **13. Which MySQL client provides GUI?**

- A. MySQL Monitor
- B. MySQL Shell
- C. MySQL Workbench
- D. SQL Plus

**Answer:** C

---

#### **14. Which DBMS supports JSON-like documents?**

- A. Relational
- B. NoSQL
- C. Hierarchical
- D. Network

**Answer:** B

---

#### **15. Which command selects a database?**

- A. SELECT db;
- B. USE db;
- C. OPEN db;
- D. SET db;

**Answer:** B

---

#### **16. What is the default port of MySQL?**

- A. 3306
- B. 1521
- C. 5432
- D. 8080

**Answer:** A

---

#### **17. Which DBMS ensures data security?**

- A. File System
- B. DBMS
- C. Operating System
- D. Compiler

**Answer:** B

---

#### **18. What is schema?**

- A. Actual data
- B. Metadata
- C. Queries
- D. Index

**Answer:** B

---

### **19. Which MySQL client supports scripting and JavaScript?**

- A. MySQL Monitor
- B. MySQL Shell
- C. MySQL Workbench
- D. phpMyAdmin

**Answer:** B

---

### **20. Which is NOT a DBMS?**

- A. Oracle
- B. MySQL
- C. MongoDB
- D. MS Word

**Answer:** D

---

## **MEDIUM MCQs (21–40)**

### **21. Which feature reduces data redundancy?**

- A. Normalization
- B. Indexing
- C. Replication
- D. Backup

**Answer:** A

---

### **22. Object-Relational DBMS supports:**

- A. Tables only
- B. Objects only
- C. Tables + Objects
- D. Files

**Answer:** C

---

### **23. Which NoSQL database is key-value based?**

- A. MongoDB
- B. Redis
- C. Cassandra
- D. Neo4j

**Answer:** B

---

### **24. What is a candidate key?**

- A. A key that can be primary
- B. A foreign key
- C. Duplicate key
- D. Composite key

**Answer:** A

---

### **25. Which MySQL client supports Python mode?**

- A. Monitor
- B. Shell
- C. Workbench
- D. phpMyAdmin

**Answer:** B

---

### **26. Which DBMS follows ACID properties?**

- A. NoSQL
- B. Relational
- C. File system
- D. XML DB

**Answer:** B

---

### **27. What does ACID stand for?**

- A. Atomicity, Consistency, Isolation, Durability
- B. Accuracy, Consistency, Isolation, Dependency
- C. Atomicity, Control, Isolation, Data
- D. Access, Control, Integrity, Durability

**Answer:** A

---

**28. Which command opens MySQL monitor?**

- A. mysql
- B. mysqld
- C. mysqladmin
- D. mydb

**Answer:** A

---

**29. Which NoSQL DB is column-oriented?**

- A. MongoDB
- B. Redis
- C. Cassandra
- D. Neo4j

**Answer:** C

---

**30. Which client is best for database design?**

- A. MySQL Monitor
- B. MySQL Shell
- C. MySQL Workbench
- D. Command Prompt

**Answer:** C

---

**31. What is metadata?**

- A. Raw data
- B. Data about data
- C. Backup data
- D. Temporary data

**Answer:** B

---

**32. Which DBMS allows flexible schema?**

- A. Relational
- B. Hierarchical
- C. NoSQL
- D. Network

**Answer:** C

---

### **33. What is a foreign key?**

- A. Primary identifier
- B. Key referencing another table
- C. Duplicate key
- D. Composite key

**Answer:** B

---

### **34. Which tool supports ER diagram?**

- A. MySQL Monitor
- B. MySQL Shell
- C. MySQL Workbench
- D. MySQL Server

**Answer:** C

---

### **35. Which is NOT a MySQL client?**

- A. MySQL Monitor
- B. MySQL Shell
- C. MySQL Workbench
- D. SQL Developer

**Answer:** D

---

### **36. Which DBMS stores data as graph?**

- A. MongoDB
- B. Cassandra
- C. Neo4j
- D. Redis

**Answer:** C

---

### **37. Which SQL command retrieves data?**

- A. INSERT
- B. DELETE
- C. SELECT
- D. UPDATE

**Answer:** C

---

### **38. Which MySQL client supports DevAPI?**

- A. Monitor
- B. Shell
- C. Workbench
- D. phpMyAdmin

**Answer:** B

---

### **39. Which DBMS uses tables with rows & columns?**

- A. NoSQL
- B. Object DBMS
- C. Relational DBMS
- D. Network DBMS

**Answer:** C

---

### **40. Which MySQL client is best for beginners?**

- A. MySQL Monitor
- B. MySQL Shell
- C. MySQL Workbench
- D. Terminal

**Answer:** C

---

## **HARD MCQs (41–60)**

### **41. Which MySQL client supports SQL, JS & Python?**

- A. Monitor
- B. Shell
- C. Workbench
- D. phpMyAdmin

**Answer:** B

---

#### **42. Object-Relational DBMS mainly solves:**

- A. Data redundancy
- B. Object-relational mismatch
- C. Query optimization
- D. Backup issues

**Answer:** B

---

#### **43. Which NoSQL DB sacrifices ACID for scalability?**

- A. MySQL
- B. Oracle
- C. MongoDB
- D. PostgreSQL

**Answer:** C

---

#### **44. Which DBMS uses CAP theorem?**

- A. Relational
- B. Object DBMS
- C. NoSQL
- D. File system

**Answer:** C

---

#### **45. What does CAP stand for?**

- A. Consistency, Availability, Partition tolerance
- B. Control, Accuracy, Performance
- C. Concurrency, Access, Partition
- D. Consistency, Atomicity, Performance

**Answer:** A

---

**46. Which MySQL client is best for automation scripts?**

- A. Workbench
- B. Monitor
- C. Shell
- D. phpMyAdmin

**Answer:** C

---

**47. Which DBMS supports horizontal scaling best?**

- A. RDBMS
- B. NoSQL
- C. File system
- D. Hierarchical DB

**Answer:** B

---

**48. Which MySQL client internally uses Visual Explain?**

- A. Monitor
- B. Shell
- C. Workbench
- D. Server

**Answer:** C

---

**49. What is schema-less design?**

- A. Fixed table structure
- B. No predefined structure
- C. Only keys defined
- D. Indexed design

**Answer:** B

---

**50. Which DBMS stores data in BSON format?**

- A. Redis
- B. Cassandra

- C. MongoDB
- D. Neo4j

**Answer:** C

---

### **51. Which MySQL tool supports performance dashboard?**

- A. Monitor
- B. Shell
- C. Workbench
- D. phpMyAdmin

**Answer:** C

---

### **52. Which DBMS best suits big data?**

- A. Relational
- B. Hierarchical
- C. NoSQL
- D. Network

**Answer:** C

---

### **53. What is the role of MySQL Monitor?**

- A. GUI design
- B. Performance analysis
- C. Command-line query execution
- D. Backup

**Answer:** C

---

### **54. Which client allows REST access in MySQL?**

- A. Monitor
- B. Shell
- C. Workbench
- D. Server

**Answer:** B

---

## **55. Which DBMS supports object inheritance?**

- A. Relational
- B. Object-Relational
- C. NoSQL
- D. File system

**Answer:** B

---

## **56. Which DBMS is best for transactional systems?**

- A. NoSQL
- B. RDBMS
- C. Graph DB
- D. Key-Value DB

**Answer:** B

---

## **57. Which MySQL client supports data modeling?**

- A. Monitor
- B. Shell
- C. Workbench
- D. mysqld

**Answer:** C

---

## **58. What is persistence in DBMS?**

- A. Temporary storage
- B. Permanent storage
- C. Cache memory
- D. Indexing

**Answer:** B

---

## **59. Which DBMS ensures strong consistency by default?**

- A. MongoDB
- B. Cassandra
- C. MySQL
- D. Redis

**Answer:** C

---

## **60. Which MySQL client is extensible via plugins?**

- A. Monitor
- B. Shell
- C. Workbench
- D. Server

**Answer:** C

# **SESSION 2 – DBMS (Data Models, ERD, SQL, DDL)**

---

## **EASY MCQs (1–30)**

### **1. Which data model describes real-world entities?**

- A. Logical
- B. Physical
- C. Conceptual
- D. Relational

**Answer:** C

---

### **2. ER diagrams are mainly used in which phase?**

- A. Coding
- B. Testing
- C. Database Design
- D. Deployment

**Answer:** C

---

### **3. Which symbol represents an entity in ERD?**

- A. Diamond
- B. Rectangle
- C. Oval
- D. Line

**Answer:** B

---

#### **4. Which symbol represents an attribute?**

- A. Rectangle
- B. Oval
- C. Diamond
- D. Square

**Answer:** B

---

#### **5. Which symbol represents relationship?**

- A. Rectangle
- B. Oval
- C. Diamond
- D. Circle

**Answer:** C

---

#### **6. What is a primary key?**

- A. Nullable attribute
- B. Unique identifier
- C. Composite attribute
- D. Foreign key

**Answer:** B

---

#### **7. Which SQL category defines database structure?**

- A. DML
- B. DCL
- C. DDL
- D. TCL

**Answer:** C

---

**8. Which command creates a table?**

- A. INSERT
- B. CREATE
- C. ALTER
- D. SELECT

**Answer:** B

---

**9. Which SQL command deletes table structure?**

- A. DELETE
- B. TRUNCATE
- C. DROP
- D. REMOVE

**Answer:** C

---

**10. Which data model represents tables?**

- A. Conceptual
- B. Logical
- C. Physical
- D. Object

**Answer:** B

---

**11. Which command removes all rows but keeps structure?**

- A. DELETE
- B. DROP
- C. TRUNCATE
- D. REMOVE

**Answer:** C

---

**12. SQL stands for?**

- A. Structured Query Language
- B. Simple Query Language

- C. Sequential Query Language
- D. Stored Query Language

**Answer:** A

---

**13. Which is NOT a SQL category?**

- A. DDL
- B. DML
- C. DCL
- D. DSL

**Answer:** D

---

**14. Which data model is closest to hardware?**

- A. Conceptual
- B. Logical
- C. Physical
- D. ER

**Answer:** C

---

**15. Which command modifies table structure?**

- A. UPDATE
- B. ALTER
- C. INSERT
- D. MODIFY

**Answer:** B

---

**16. Which SQL command adds a column?**

- A. CREATE
- B. INSERT
- C. ALTER
- D. UPDATE

**Answer:** C

---

## **17. Which attribute uniquely identifies entity?**

- A. Composite
- B. Multivalued
- C. Key
- D. Derived

**Answer:** C

---

## **18. Which rule defines relational DBMS?**

- A. Boyce rule
- B. Codd's rule
- C. Newton rule
- D. SQL rule

**Answer:** B

---

## **19. DML is used for?**

- A. Structure
- B. Permissions
- C. Data manipulation
- D. Transactions

**Answer:** C

---

## **20. Which command removes database?**

- A. DROP DATABASE
- B. DELETE DATABASE
- C. TRUNCATE DATABASE
- D. REMOVE DATABASE

**Answer:** A

---

## **21. Which attribute is derived?**

- A. Age from DOB
- B. Roll number
- C. ID
- D. Salary

**Answer: A**

---

**22. Which SQL command changes column datatype?**

- A. MODIFY
- B. ALTER
- C. UPDATE
- D. CHANGE

**Answer: B**

---

**23. ERD stands for?**

- A. Entity Relation Data
- B. Entity Relationship Diagram
- C. Entity Record Diagram
- D. Entity Reference Diagram

**Answer: B**

---

**24. Which SQL category controls access?**

- A. DDL
- B. DML
- C. DCL
- D. TCL

**Answer: C**

---

**25. Which command permanently deletes data?**

- A. DELETE
- B. DROP
- C. TRUNCATE
- D. UPDATE

**Answer: C**

---

**26. Which command commits transaction?**

- A. COMMIT
- B. SAVEPOINT
- C. ROLLBACK
- D. END

**Answer:** A

---

## **27. Which SQL category manages transactions?**

- A. DDL
- B. DML
- C. DCL
- D. TCL

**Answer:** D

---

## **28. Which model hides implementation details?**

- A. Physical
- B. Logical
- C. Conceptual
- D. Relational

**Answer:** C

---

## **29. Which ERD attribute can have multiple values?**

- A. Derived
- B. Key
- C. Composite
- D. Multivalued

**Answer:** D

---

## **30. Which SQL command removes column?**

- A. DELETE
- B. DROP
- C. ALTER
- D. REMOVE

**Answer:** C

---

 **MEDIUM MCQs (31–60)**

**31. Which data model is DBMS-independent?**

- A. Physical
- B. Logical
- C. Conceptual
- D. Relational

**Answer:** C

---

**32. Which ERD constraint ensures mandatory participation?**

- A. Total participation
- B. Partial participation
- C. Cardinality
- D. Degree

**Answer:** A

---

**33. Which is a composite attribute?**

- A. Age
- B. Address (street, city)
- C. Salary
- D. ID

**Answer:** B

---

**34. Which SQL category includes GRANT?**

- A. DDL
- B. DML
- C. DCL
- D. TCL

**Answer:** C

---

**35. Which SQL command removes rows conditionally?**

- A. TRUNCATE
- B. DROP
- C. DELETE
- D. REMOVE

**Answer:** C

---

### **36. Which command can rollback?**

- A. DELETE
- B. TRUNCATE
- C. DROP
- D. None

**Answer:** A

---

### **37. Which command cannot be rolled back?**

- A. DELETE
- B. INSERT
- C. UPDATE
- D. TRUNCATE

**Answer:** D

---

### **38. Codd's rule defines?**

- A. File system
- B. RDBMS features
- C. SQL syntax
- D. Indexing

**Answer:** B

---

### **39. How many Codd's rules?**

- A. 10
- B. 11
- C. 12
- D. 13

**Answer:** C

---

#### **40. Which SQL command creates schema?**

- A. CREATE SCHEMA
- B. CREATE DB
- C. CREATE TABLE
- D. CREATE VIEW

**Answer:** A

---

#### **41. Which ERD relationship degree is binary?**

- A. 1 entity
- B. 2 entities
- C. 3 entities
- D. Many entities

**Answer:** B

---

#### **42. Which SQL command renames table?**

`ALTER TABLE emp RENAME TO employee;`

- A. UPDATE
- B. ALTER
- C. RENAME
- D. CHANGE

**Answer:** B

---

#### **43. Which command adds constraint?**

`ALTER TABLE emp ADD PRIMARY KEY(id);`

- A. CREATE
- B. ALTER
- C. UPDATE
- D. INSERT

**Answer:** B

---

#### **44. Which constraint ensures uniqueness?**

- A. NOT NULL
- B. UNIQUE
- C. CHECK
- D. DEFAULT

**Answer:** B

---

#### **45. Which constraint ensures valid values?**

- A. CHECK
- B. UNIQUE
- C. DEFAULT
- D. PRIMARY

**Answer:** A

---

#### **46. Logical model converts ERD into?**

- A. Tables
- B. Files
- C. Hardware
- D. Code

**Answer:** A

---

#### **47. Which SQL command removes constraint?**

- A. DROP
- B. ALTER DROP
- C. DELETE
- D. REMOVE

**Answer:** B

---

#### **48. Which ERD symbol shows weak entity?**

- A. Double rectangle
- B. Double oval
- C. Diamond
- D. Line

**Answer:** A

---

**49. Which command resets auto increment?**

- A. DELETE
- B. DROP
- C. TRUNCATE
- D. UPDATE

**Answer:** C

---

**50. Which SQL category includes CREATE?**

- A. DDL
- B. DML
- C. DCL
- D. TCL

**Answer:** A

---

**51. Which ERD constraint shows max participation?**

- A. Cardinality
- B. Degree
- C. Participation
- D. Key

**Answer:** A

---

**52. Which SQL command saves transaction state?**

- A. COMMIT
- B. SAVEPOINT
- C. ROLLBACK
- D. END

**Answer:** B

---

**53. Which SQL command revokes permission?**

- A. GRANT
- B. DELETE
- C. REVOKE
- D. DROP

**Answer:** C

---

**54. Which SQL command defines default value?**

- A. CHECK
- B. DEFAULT
- C. UNIQUE
- D. NOT NULL

**Answer:** B

---

**55. Which attribute can be broken further?**

- A. Simple
- B. Composite
- C. Derived
- D. Key

**Answer:** B

---

**56. Which ERD relationship connects entity to itself?**

- A. Binary
- B. Recursive
- C. Ternary
- D. Unary

**Answer:** B

---

**57. Which SQL command deletes table + data?**

- A. DELETE
- B. TRUNCATE
- C. DROP
- D. REMOVE

**Answer:** C

---

## **58. Which model decides indexing?**

- A. Conceptual
- B. Logical
- C. Physical
- D. ER

**Answer:** C

---

## **59. Which SQL command modifies constraint?**

- A. INSERT
- B. UPDATE
- C. ALTER
- D. MODIFY

**Answer:** C

---

## **60. Which ERD attribute is calculated?**

- A. Key
- B. Composite
- C. Derived
- D. Simple

**Answer:** C

---

## **HARD MCQs (61–90)**

### **61. Which Codd rule enforces data independence?**

- A. Rule 1
- B. Rule 8
- C. Rule 9
- D. Rule 12

**Answer:** C

---

### **62. Which command is auto-commit by default?**

- A. DELETE
- B. UPDATE
- C. INSERT
- D. TRUNCATE

**Answer:** D

---

### **63. Which SQL command breaks normalization?**

- A. CREATE
- B. ALTER
- C. DENORMALIZE
- D. INSERT

**Answer:** B

---

### **64. Which ERD constraint prevents orphan records?**

- A. Cardinality
- B. Participation
- C. Referential integrity
- D. Degree

**Answer:** C

---

### **65. Which SQL constraint enforces referential integrity?**

- A. PRIMARY KEY
- B. UNIQUE
- C. FOREIGN KEY
- D. CHECK

**Answer:** C

---

### **66. Which SQL command is irreversible?**

- A. DELETE
- B. INSERT
- C. UPDATE
- D. DROP

**Answer:** D

---

**67. Which model handles storage optimization?**

- A. Conceptual
- B. Logical
- C. Physical
- D. ER

**Answer:** C

---

**68. Which SQL command affects metadata only?**

- A. INSERT
- B. DELETE
- C. ALTER
- D. UPDATE

**Answer:** C

---

**69. Which ERD relationship uses associative entity?**

- A. 1:1
- B. 1:M
- C. M:N
- D. Unary

**Answer:** C

---

**70. Which SQL command removes all constraints?**

- A. DELETE
- B. DROP
- C. TRUNCATE
- D. ALTER

**Answer:** B

---

**71. Which SQL command supports CASCADE?**

- A. INSERT
- B. DROP

- C. UPDATE
- D. SELECT

**Answer:** B

---

## 72. Which ERD attribute is optional?

- A. Mandatory
- B. Key
- C. Nullable
- D. Derived

**Answer:** C

---

## 73. Which SQL command changes column name?

```
ALTER TABLE emp CHANGE name emp_name VARCHAR(50);
```

- A. ALTER
- B. MODIFY
- C. CHANGE
- D. UPDATE

**Answer:** A

---

## 74. Which SQL constraint checks condition at row level?

- A. UNIQUE
- B. CHECK
- C. PRIMARY
- D. FOREIGN

**Answer:** B

---

## 75. Which ERD notation shows weak relationship?

- A. Double diamond
- B. Double rectangle
- C. Oval
- D. Line

**Answer:** A

---

**76. Which SQL command supports ROLLBACK?**

- A. DELETE
- B. TRUNCATE
- C. DROP
- D. CREATE

**Answer:** A

---

**77. Which data model maps ERD to SQL?**

- A. Conceptual
- B. Logical
- C. Physical
- D. Object

**Answer:** B

---

**78. Which SQL command modifies default?**

- A. UPDATE
- B. ALTER
- C. CHANGE
- D. INSERT

**Answer:** B

---

**79. Which SQL command drops multiple tables?**

`DROP TABLE t1, t2;`

- A. DELETE
- B. TRUNCATE
- C. DROP
- D. REMOVE

**Answer:** C

---

**80. Which Codd rule mandates relational completeness?**

- A. Rule 5
- B. Rule 6
- C. Rule 7
- D. Rule 8

**Answer:** C

---

**81. Which ERD constraint ensures minimum participation?**

- A. Cardinality
- B. Participation
- C. Degree
- D. Key

**Answer:** B

---

**82. Which SQL category includes ROLLBACK?**

- A. DDL
- B. DML
- C. DCL
- D. TCL

**Answer:** D

---

**83. Which SQL command affects schema version?**

- A. UPDATE
- B. DELETE
- C. ALTER
- D. SELECT

**Answer:** C

---

**84. Which ERD attribute cannot be null?**

- A. Derived
- B. Composite
- C. Key
- D. Multivalued

**Answer:** C

---

**85. Which SQL command removes index?**

- A. DROP INDEX
- B. DELETE INDEX
- C. REMOVE INDEX
- D. TRUNCATE INDEX

**Answer:** A

---

**86. Which SQL command modifies column size?**

- A. UPDATE
- B. MODIFY
- C. ALTER
- D. CHANGE

**Answer:** C

---

**87. Which ERD relationship has degree 3?**

- A. Unary
- B. Binary
- C. Ternary
- D. Recursive

**Answer:** C

---

**88. Which SQL command breaks foreign key dependency?**

- A. DELETE
- B. DROP with CASCADE
- C. TRUNCATE
- D. UPDATE

**Answer:** B

---

**89. Which ERD attribute is stored physically?**

- A. Derived
- B. Key

- C. Simple
- D. Calculated

**Answer:** C

---

## 90. Which SQL command modifies table engine?

`ALTER TABLE emp ENGINE=InnoDB;`

- A. UPDATE
- B. ALTER
- C. CREATE
- D. MODIFY

**Answer:** B

# SESSIONS 3 & 4 – DBMS

(Redundancy, Anomalies, Functional Dependency, Normal Forms, DML)

---

## EASY MCQs (1–20)

### 1. Data redundancy means:

- A. Missing data
- B. Duplicate data
- C. Encrypted data
- D. Indexed data

**Answer:** B

---

### 2. Which problem occurs due to redundancy?

- A. Indexing
- B. Data anomalies
- C. Backup
- D. Authorization

**Answer:** B

---

**3. Which anomaly occurs when updating duplicate data?**

- A. Insert anomaly
- B. Delete anomaly
- C. Update anomaly
- D. Join anomaly

**Answer:** C

---

**4. Functional dependency represents:**

- A. Relation between tables
- B. Relation between attributes
- C. Relation between databases
- D. Relation between rows

**Answer:** B

---

**5. If  $A \rightarrow B$ , then:**

- A. B depends on A
- B. A depends on B
- C. A and B independent
- D. Both depend on key

**Answer:** A

---

**6. Which normal form removes repeating groups?**

- A. 1NF
- B. 2NF
- C. 3NF
- D. BCNF

**Answer:** A

---

**7. Which normal form removes partial dependency?**

- A. 1NF
- B. 2NF

- A. 3NF
- B. BCNF

**Answer:** B

---

**8. Which normal form removes transitive dependency?**

- A. 1NF
- B. 2NF
- C. 3NF
- D. 4NF

**Answer:** C

---

**9. BCNF is stricter than:**

- A. 1NF
- B. 2NF
- C. 3NF
- D. 4NF

**Answer:** C

---

**10. INSERT is a:**

- A. DDL command
- B. DML command
- C. DCL command
- D. TCL command

**Answer:** B

---

**11. Which command adds a new row?**

- A. UPDATE
- B. INSERT
- C. DELETE
- D. TRUNCATE

**Answer:** B

---

## **12. Which command modifies existing rows?**

- A. INSERT
- B. DELETE
- C. UPDATE
- D. TRUNCATE

**Answer:** C

---

## **13. Which command removes selected rows?**

- A. DROP
- B. DELETE
- C. TRUNCATE
- D. ALTER

**Answer:** B

---

## **14. TRUNCATE removes:**

- A. Structure only
- B. Selected rows
- C. All rows
- D. Columns

**Answer:** C

---

## **15. DELETE can be rolled back?**

- A. Yes
- B. No
- C. Only once
- D. Depends on DB

**Answer:** A

---

## **16. TRUNCATE can be rolled back?**

- A. Yes
- B. No
- C. Sometimes
- D. Using savepoint

**Answer:** B

---

**17. Functional dependency is used in:**

- A. Indexing
- B. Normalization
- C. Encryption
- D. Backup

**Answer:** B

---

**18. Which anomaly occurs when insertion is not possible?**

- A. Insert anomaly
- B. Update anomaly
- C. Delete anomaly
- D. Select anomaly

**Answer:** A

---

**19. Which normal form introduces atomic values?**

- A. 1NF
- B. 2NF
- C. 3NF
- D. BCNF

**Answer:** A

---

**20. DML commands affect:**

- A. Schema
- B. Metadata
- C. Data
- D. Index

**Answer:** C

---



**MEDIUM MCQs (21–40)**

## **21. Partial dependency exists when:**

- A. Non-key depends on full key
- B. Non-key depends on part of key
- C. Key depends on non-key
- D. No dependency

**Answer:** B

---

## **22. Transitive dependency means:**

- A.  $A \rightarrow B \rightarrow C$
- B.  $A \rightarrow C$
- C.  $B \rightarrow A$
- D.  $C \rightarrow B$

**Answer:** A

---

## **23. Which normal form eliminates partial dependency?**

- A. 1NF
- B. 2NF
- C. 3NF
- D. BCNF

**Answer:** B

---

## **24. Which NF ensures every determinant is a candidate key?**

- A. 3NF
- B. 4NF
- C. BCNF
- D. 5NF

**Answer:** C

---

## **25. Which NF deals with multivalued dependency?**

- A. 3NF
- B. BCNF
- C. 4NF
- D. 5NF

**Answer:** C

---

**26. 5NF is also called:**

- A. Join Normal Form
- B. Domain NF
- C. Key NF
- D. Atomic NF

**Answer:** A

---

**27. Consider FD:**

$\text{EmpID} \rightarrow \text{EmpName}$

EmpID is:

- A. Non-key
- B. Foreign key
- C. Determinant
- D. Multivalued

**Answer:** C

---

**28. Which operation causes delete anomaly?**

- A. Removing last record
- B. Updating record
- C. Inserting null
- D. Creating table

**Answer:** A

---

**29. Which command deletes all rows faster?**

- A. DELETE
- B. DROP
- C. TRUNCATE
- D. UPDATE

**Answer:** C

---

**30. Which DML command supports WHERE clause?**

- A. INSERT
- B. UPDATE
- C. TRUNCATE
- D. CREATE

**Answer:** B

---

### 31. What will this do?

`DELETE FROM emp;`

- A. Deletes structure
- B. Deletes all rows
- C. Deletes database
- D. Error

**Answer:** B

---

### 32. What will this do?

`TRUNCATE TABLE emp;`

- A. Deletes some rows
- B. Deletes all rows permanently
- C. Deletes columns
- D. Deletes table

**Answer:** B

---

### 33. Which command fires triggers?

- A. TRUNCATE
- B. DELETE
- C. DROP
- D. CREATE

**Answer:** B

---

### 34. Which normal form is optional in practice?

- A. 1NF
- B. 2NF

- C. 3NF
- D. 5NF

**Answer:** D

---

**35. Which DML command can insert multiple rows?**

`INSERT INTO emp VALUES (...), (...);`

- A. UPDATE
- B. INSERT
- C. DELETE
- D. TRUNCATE

**Answer:** B

---

**36. Which anomaly occurs when deleting last record removes important info?**

- A. Insert
- B. Update
- C. Delete
- D. Select

**Answer:** C

---

**37. Which normal form increases tables most?**

- A. 1NF
- B. 2NF
- C. 3NF
- D. BCNF

**Answer:** D

---

**38. Which dependency violates BCNF?**

- A. Key → Attribute
- B. Attribute → Key
- C. Non-key → Non-key
- D. Determinant not a key

**Answer:** D

---

**39. Which command resets auto-increment?**

- A. DELETE
- B. UPDATE
- C. TRUNCATE
- D. INSERT

**Answer:** C

---

**40. Which command cannot have WHERE clause?**

- A. DELETE
- B. UPDATE
- C. TRUNCATE
- D. INSERT

**Answer:** C

---

 **HARD MCQs (41–60)**

**41. A table in 3NF but not BCNF contains:**

- A. Partial dependency
- B. Transitive dependency
- C. Non-key determinant
- D. Multivalued dependency

**Answer:** C

---

**42. Which normalization step may reduce performance?**

- A. 1NF
- B. 2NF
- C. 3NF+
- D. All

**Answer:** C

---

**43. Which dependency is removed in 4NF?**

- A. Functional
- B. Partial
- C. Transitive
- D. Multivalued

**Answer:** D

---

**44. Which command does NOT generate undo logs?**

- A. DELETE
- B. UPDATE
- C. INSERT
- D. TRUNCATE

**Answer:** D

---

**45. Which command bypasses transaction control?**

- A. DELETE
- B. INSERT
- C. UPDATE
- D. TRUNCATE

**Answer:** D

---

**46. Given FD:**

$$A \rightarrow B, B \rightarrow C$$

Which NF violation?

- A. 1NF
- B. 2NF
- C. 3NF
- D. BCNF

**Answer:** C

---

**47. Which scenario causes insert anomaly?**

- A. Mandatory foreign key
- B. Missing parent record
- C. Duplicate record
- D. Primary key

**Answer:** B

---

**48. Which DML command can violate referential integrity?**

- A. INSERT
- B. UPDATE
- C. DELETE
- D. All

**Answer:** D

---

**49. Which normalization introduces lossless decomposition?**

- A. 1NF
- B. 2NF
- C. 3NF
- D. All

**Answer:** D

---

**50. Which DML command supports subquery?**

- A. INSERT
- B. UPDATE
- C. DELETE
- D. All

**Answer:** D

---

**51. Which NF focuses on join dependency?**

- A. 3NF
- B. BCNF
- C. 4NF
- D. 5NF

**Answer:** D

---

**52. Which is NOT an anomaly?**

- A. Insert
- B. Update
- C. Delete
- D. Select

**Answer:** D

---

**53. Which operation causes maximum table lock?**

- A. DELETE
- B. UPDATE
- C. TRUNCATE
- D. INSERT

**Answer:** C

---

**54. Which command cannot use LIMIT?**

- A. DELETE
- B. UPDATE
- C. INSERT
- D. TRUNCATE

**Answer:** D

---

**55. Which NF ensures minimal redundancy?**

- A. 1NF
- B. 2NF
- C. 3NF
- D. BCNF

**Answer:** D

---

**56. Which dependency is allowed in 3NF but not BCNF?**

- A. Key → Attribute
- B. Non-key → Key
- C. Non-key → Non-key
- D. Attribute → Attribute

**Answer:** B

---

**57. Which DML command returns affected rows count?**

- A. DELETE
- B. UPDATE
- C. INSERT
- D. All

**Answer:** D

---

**58. Which normalization step increases joins?**

- A. Denormalization
- B. Normalization
- C. Indexing
- D. Partitioning

**Answer:** B

---

**59. Which command is fastest for bulk delete?**

- A. DELETE
- B. UPDATE
- C. TRUNCATE
- D. DROP

**Answer:** C

---

**60. Which statement is TRUE?**

- A. BCNF always achievable
- B. 5NF rarely used
- C. TRUNCATE is DML
- D. DELETE is irreversible

**Answer:** B



# SESSION 5 – MySQL (Data Types, Constraints, Aggregate Functions, Clauses)

---



## EASY MCQs (1–20)

### 1. Which data type stores whole numbers in MySQL?

- A. CHAR
- B. VARCHAR
- C. INT
- D. FLOAT

**Answer:** C

---

### 2. Which constraint ensures uniqueness?

- A. PRIMARY KEY
- B. UNIQUE
- C. NOT NULL
- D. CHECK

**Answer:** B

---

### 3. Which constraint does NOT allow NULL values?

- A. UNIQUE
- B. PRIMARY KEY
- C. NOT NULL
- D. DEFAULT

**Answer:** C

---

### 4. Which data type stores fixed-length strings?

- A. VARCHAR
- B. TEXT
- C. CHAR
- D. BLOB

**Answer:** C

---

**5. Which constraint uniquely identifies a row?**

- A. FOREIGN KEY
- B. UNIQUE
- C. PRIMARY KEY
- D. CHECK

**Answer:** C

---

**6. Which function returns total number of rows?**

- A. SUM()
- B. COUNT()
- C. AVG()
- D. MAX()

**Answer:** B

---

**7. Which clause groups rows?**

- A. WHERE
- B. GROUP BY
- C. HAVING
- D. ORDER BY

**Answer:** B

---

**8. Which clause filters grouped data?**

- A. WHERE
- B. GROUP BY
- C. HAVING
- D. ORDER BY

**Answer:** C

---

**9. Which operator is used for pattern matching?**

- A. =
- B. IN

- C. LIKE
- D. BETWEEN

**Answer:** C

---

### **10. Which keyword removes duplicate rows?**

- A. DISTINCT
- B. UNIQUE
- C. DIFFERENT
- D. REMOVE

**Answer:** A

---

### **11. Which clause sorts output?**

- A. GROUP BY
- B. ORDER BY
- C. HAVING
- D. WHERE

**Answer:** B

---

### **12. Which function returns maximum value?**

- A. MAX()
- B. MIN()
- C. COUNT()
- D. AVG()

**Answer:** A

---

### **13. Which keyword checks NULL?**

- A. = NULL
- B. IS NULL
- C. NULL()
- D. CHECK NULL

**Answer:** B

---

#### **14. Which operator checks range?**

- A. IN
- B. LIKE
- C. BETWEEN
- D. EXISTS

**Answer:** C

---

#### **15. Which constraint provides default value?**

- A. CHECK
- B. UNIQUE
- C. DEFAULT
- D. NOT NULL

**Answer:** C

---

#### **16. Which data type stores decimal numbers?**

- A. INT
- B. FLOAT
- C. CHAR
- D. DATE

**Answer:** B

---

#### **17. Which constraint enforces referential integrity?**

- A. PRIMARY KEY
- B. UNIQUE
- C. FOREIGN KEY
- D. CHECK

**Answer:** C

---

#### **18. Which function calculates average?**

- A. AVG()
- B. SUM()
- C. COUNT()
- D. MIN()

**Answer:** A

---

### **19. Which operator checks list of values?**

- A. LIKE
- B. BETWEEN
- C. IN
- D. EXISTS

**Answer:** C

---

### **20. Which order is ascending by default?**

- A. DESC
- B. ASC
- C. SORT
- D. UP

**Answer:** B

---

## MEDIUM MCQs (21–40)

### **21. What does this do?**

```
CREATE TABLE emp(  
    id INT PRIMARY KEY,  
    name VARCHAR(30) NOT NULL  
);
```

- A. Allows null names
- B. Prevents duplicate id
- C. Allows duplicate id
- D. No constraint applied

**Answer:** B

---

### **22. Which data type stores date only?**

- A. DATETIME
- B. TIMESTAMP

- C. DATE
- D. YEAR

**Answer:** C

---

### **23. Which constraint allows condition?**

- A. CHECK
- B. UNIQUE
- C. DEFAULT
- D. FOREIGN KEY

**Answer:** A

---

### **24. Which query counts employees per department?**

```
SELECT dept, COUNT(*) FROM emp GROUP BY dept;
```

- A. Grouping rows
- B. Sorting rows
- C. Filtering rows
- D. Joining tables

**Answer:** A

---

### **25. WHERE clause cannot be used with:**

- A. SELECT
- B. UPDATE
- C. DELETE
- D. GROUP BY

**Answer:** D

---

### **26. Which clause executes first?**

- A. GROUP BY
- B. HAVING
- C. WHERE
- D. ORDER BY

**Answer:** C

---

## 27. Which function ignores NULL values?

- A. COUNT()
- B. COUNT(column)
- C. SUM()
- D. All except COUNT()

**Answer:** D

---

## 28. Which operator matches ending pattern?

name LIKE '%son'

- A. Starts with son
- B. Ends with son
- C. Contains son
- D. Equals son

**Answer:** B

---

## 29. What does DISTINCT do?

- A. Sorts rows
- B. Filters rows
- C. Removes duplicates
- D. Groups rows

**Answer:** C

---

## 30. Which constraint is table-level only?

- A. NOT NULL
- B. CHECK
- C. FOREIGN KEY
- D. DEFAULT

**Answer:** C

---

## 31. Which query filters aggregated data?

HAVING COUNT(\*) > 5

- A. WHERE
- B. HAVING
- C. GROUP BY
- D. ORDER BY

**Answer:** B

---

### **32. Which data type stores large text?**

- A. VARCHAR
- B. CHAR
- C. TEXT
- D. ENUM

**Answer:** C

---

### **33. Which operator excludes values?**

- A. IN
- B. NOT IN
- C. BETWEEN
- D. LIKE

**Answer:** B

---

### **34. Which query sorts salary descending?**

ORDER BY salary DESC

- A. Filtering
- B. Grouping
- C. Sorting
- D. Joining

**Answer:** C

---

### **35. What does this query return?**

SELECT COUNT(salary) FROM emp;

- A. All rows
- B. Non-null salaries
- C. Max salary
- D. Avg salary

**Answer:** B

---

### **36. Which constraint can be added later?**

- A. NOT NULL
- B. PRIMARY KEY
- C. CHECK
- D. All

**Answer:** D

---

### **37. Which query finds salaries between 10k and 20k?**

salary BETWEEN 10000 AND 20000

- A. Exact match
- B. Inclusive range
- C. Exclusive range
- D. Pattern match

**Answer:** B

---

### **38. Which clause removes NULL rows?**

- A. WHERE salary = NULL
- B. WHERE salary IS NULL
- C. WHERE salary IS NOT NULL
- D. DELETE NULL

**Answer:** C

---

### **39. Which function returns total sum?**

- A. COUNT()
- B. AVG()
- C. SUM()
- D. MAX()

**Answer:** C

---

#### **40. Which query removes constraint?**

`ALTER TABLE emp DROP PRIMARY KEY;`

- A. DELETE
- B. DROP
- C. ALTER
- D. UPDATE

**Answer:** C

---

### **HARD MCQs (41–60)**

#### **41. Which data type saves storage for small numbers?**

- A. BIGINT
- B. INT
- C. TINYINT
- D. FLOAT

**Answer:** C

---

#### **42. Which constraint prevents orphan records?**

- A. UNIQUE
- B. CHECK
- C. FOREIGN KEY
- D. DEFAULT

**Answer:** C

---

#### **43. Which clause is mandatory with HAVING?**

- A. WHERE
- B. GROUP BY
- C. ORDER BY
- D. DISTINCT

**Answer:** B

---

**44. Which query is invalid?**

```
SELECT dept, AVG(salary) FROM emp;
```

- A. Valid
- B. Invalid – missing GROUP BY
- C. Invalid – AVG error
- D. Invalid – SELECT error

**Answer:** B

---

**45. Which operator fails with NULL in NOT IN?**

- A. BETWEEN
- B. LIKE
- C. IN
- D. NOT IN

**Answer:** D

---

**46. Which function includes NULL?**

- A. COUNT(\*)
- B. COUNT(col)
- C. SUM()
- D. AVG()

**Answer:** A

---

**47. Which constraint is NOT supported in old MySQL versions?**

- A. PRIMARY KEY
- B. FOREIGN KEY
- C. CHECK
- D. UNIQUE

**Answer:** C

---

**48. Which query violates SQL rules?**

```
SELECT dept, salary FROM emp GROUP BY dept;
```

- A. Valid
- B. Invalid – salary not aggregated
- C. Invalid – missing WHERE
- D. Invalid – missing HAVING

**Answer:** B

---

#### **49. Which clause executes last?**

- A. WHERE
- B. GROUP BY
- C. HAVING
- D. ORDER BY

**Answer:** D

---

#### **50. Which data type auto updates time?**

- A. DATE
- B. DATETIME
- C. TIMESTAMP
- D. YEAR

**Answer:** C

---

#### **51. Which query counts distinct departments?**

`COUNT(DISTINCT dept)`

- A. Counts all rows
- B. Counts duplicates
- C. Counts unique depts
- D. Error

**Answer:** C

---

#### **52. Which constraint is mandatory for foreign key reference?**

- A. UNIQUE
- B. CHECK

- C. PRIMARY KEY
- D. DEFAULT

**Answer:** C

---

**53. Which LIKE matches exactly one character?**

- A. %
- B. \_
- C. \*
- D. ?

**Answer:** B

---

**54. Which query is fastest for checking NULL?**

- A. = NULL
- B. IS NULL
- C. NULL()
- D. CHECK NULL

**Answer:** B

---

**55. Which operator supports subquery?**

- A. LIKE
- B. BETWEEN
- C. IN
- D. DISTINCT

**Answer:** C

---

**56. Which aggregate function can be nested?**

- A. COUNT()
- B. SUM()
- C. MAX()
- D. None

**Answer:** D

---

## **57. Which clause filters before grouping?**

- A. HAVING
- B. WHERE
- C. GROUP BY
- D. ORDER BY

**Answer:** B

---

## **58. Which data type is best for money?**

- A. FLOAT
- B. DOUBLE
- C. DECIMAL
- D. INT

**Answer:** C

---

## **59. Which command drops constraint?**

- A. DROP CONSTRAINT
- B. ALTER DROP
- C. ALTER TABLE DROP
- D. DELETE CONSTRAINT

**Answer:** C

---

## **60. Which statement is TRUE?**

- A. HAVING works without GROUP BY
- B. WHERE works on aggregated data
- C. COUNT(\*) includes NULL
- D. CHECK always enforced in MySQL

**Answer:** C



# **SESSION 6 – DBMS**

(Relational Algebra, Joins, UNION, Copy Table, AUTO\_INCREMENT)

---



## EASY MCQs (1–25)

### 1. Which relational algebra operation selects rows?

- A. Projection
- B. Selection
- C. Union
- D. Join

**Answer:** B

---

### 2. Which operation selects columns?

- A. Selection
- B. Union
- C. Projection
- D. Intersection

**Answer:** C

---

### 3. UNION operation combines:

- A. Columns
- B. Rows
- C. Tables
- D. Databases

**Answer:** B

---

### 4. UNION removes:

- A. NULL values
- B. Duplicate rows
- C. Columns
- D. Constraints

**Answer:** B

---

### 5. UNION ALL:

- A. Removes duplicates
- B. Keeps duplicates
- C. Sorts data
- D. Joins tables

**Answer:** B

---

## **6. Which join produces Cartesian product?**

- A. Inner Join
- B. Natural Join
- C. Cross Join
- D. Left Join

**Answer:** C

---

## **7. Which join returns matching rows only?**

- A. Left Join
- B. Right Join
- C. Full Join
- D. Inner Join

**Answer:** D

---

## **8. Which join matches equal values?**

- A. Natural Join
- B. Equi Join
- C. Cross Join
- D. Outer Join

**Answer:** B

---

## **9. Which join automatically matches same column names?**

- A. Inner Join
- B. Equi Join
- C. Natural Join
- D. Cross Join

**Answer:** C

---

**10. Which join keeps all left table rows?**

- A. Right Join
- B. Inner Join
- C. Left Join
- D. Full Join

**Answer:** C

---

**11. Which join keeps unmatched rows with NULL?**

- A. Inner Join
- B. Outer Join
- C. Cross Join
- D. Equi Join

**Answer:** B

---

**12. Which operator is NOT relational algebra?**

- A. Selection
- B. Projection
- C. Division
- D. Sorting

**Answer:** D

---

**13. AUTO\_INCREMENT is used for:**

- A. Foreign key
- B. Default value
- C. Unique sequence numbers
- D. Indexing

**Answer:** C

---

**14. AUTO\_INCREMENT is usually applied on:**

- A. VARCHAR
- B. DATE

- A. INT
- B. FLOAT

**Answer:** C

---

### **15. Which keyword copies table structure only?**

`CREATE TABLE t2 LIKE t1;`

- A. Copies data
- B. Copies structure
- C. Copies constraints
- D. Copies indexes only

**Answer:** B

---

### **16. Which command copies data?**

`INSERT INTO t2 SELECT * FROM t1;`

- A. Structure only
- B. Data only
- C. Both
- D. None

**Answer:** B

---

### **17. Which relational operation removes duplicates?**

- A. Union
- B. Union All
- C. Projection
- D. Join

**Answer:** A

---

### **18. Which join is default in SQL?**

- A. Outer Join
- B. Natural Join
- C. Inner Join
- D. Cross Join

**Answer:** C

---

**19. Which join syntax is OLD style?**

- A. USING
- B. ON
- C. WHERE clause
- D. JOIN keyword

**Answer:** C

---

**20. Which SQL keyword defines join condition?**

- A. WHERE
- B. USING
- C. ON
- D. MATCH

**Answer:** C

---

**21. Which operation finds common rows?**

- A. UNION
- B. INTERSECT
- C. MINUS
- D. JOIN

**Answer:** B

---

**22. Which operation subtracts one relation from another?**

- A. UNION
- B. INTERSECT
- C. MINUS
- D. JOIN

**Answer:** C

---

**23. Which join returns all combinations?**

- A. Cross Join
- B. Inner Join
- C. Natural Join
- D. Left Join

**Answer:** A

---

## **24. AUTO\_INCREMENT starts by default from:**

- A. 0
- B. 1
- C. -1
- D. NULL

**Answer:** B

---

## **25. Which statement is TRUE?**

- A. UNION keeps duplicates
- B. UNION ALL removes duplicates
- C. UNION sorts result
- D. UNION ALL is faster

**Answer:** D

---

## **MEDIUM MCQs (26–50)**

### **26. What does this do?**

```
SELECT * FROM A UNION SELECT * FROM B;
```

- A. Concatenates tables
- B. Removes duplicate rows
- C. Creates join
- D. Error

**Answer:** B

---

### **27. What does this do?**

```
SELECT * FROM A UNION ALL SELECT * FROM B;
```

- A. Removes duplicates
- B. Keeps duplicates
- C. Joins tables
- D. Sorts rows

**Answer:** B

---

## **28. Which join uses equality operator?**

- A. Natural
- B. Equi
- C. Cross
- D. Outer

**Answer:** B

---

## **29. Which join does NOT require join condition?**

- A. Inner Join
- B. Cross Join
- C. Natural Join
- D. Left Join

**Answer:** B

---

## **30. Which join excludes non-matching rows?**

- A. Inner Join
- B. Left Join
- C. Right Join
- D. Full Join

**Answer:** A

---

## **31. Which SQL standard join replaces old syntax?**

`FROM emp e JOIN dept d ON e.did=d.id`

- A. ANSI Join
- B. Natural Join
- C. Cross Join
- D. Old Join

**Answer:** A

---

**32. Which join uses USING clause?**

`JOIN dept USING(dept_id)`

- A. Natural Join
- B. Equi Join
- C. Inner Join
- D. Cross Join

**Answer:** C

---

**33. Which operation reduces columns first?**

- A. Selection
- B. Projection
- C. Join
- D. Union

**Answer:** B

---

**34. Which operation reduces rows first?**

- A. Selection
- B. Projection
- C. Join
- D. Union

**Answer:** A

---

**35. Which copy method copies constraints?**

`CREATE TABLE t2 LIKE t1;`

- A. Yes
- B. No
- C. Only PK
- D. Only FK

**Answer:** A

---

### **36. Which copy method copies data + structure?**

- A. CREATE TABLE AS
- B. CREATE TABLE LIKE
- C. INSERT INTO
- D. SELECT INTO

**Answer:** A

---

### **37. Which join is symmetric?**

- A. Left Join
- B. Right Join
- C. Inner Join
- D. Outer Join

**Answer:** C

---

### **38. Which join can produce NULLs?**

- A. Inner Join
- B. Outer Join
- C. Cross Join
- D. Equi Join

**Answer:** B

---

### **39. Which relational operation is commutative?**

- A. Selection
- B. Projection
- C. Union
- D. Difference

**Answer:** C

---

### **40. Which operator is NOT supported directly in MySQL?**

- A. UNION
- B. INTERSECT

- C. JOIN
- D. CROSS JOIN

**Answer:** B

---

#### **41. Which SQL simulates INTERSECT in MySQL?**

- A. JOIN
- B. IN
- C. INNER JOIN
- D. LEFT JOIN

**Answer:** C

---

#### **42. Which SQL simulates MINUS in MySQL?**

- A. INNER JOIN
- B. RIGHT JOIN
- C. LEFT JOIN with NULL
- D. CROSS JOIN

**Answer:** C

---

#### **43. Which join duplicates columns?**

- A. Natural Join
- B. Equi Join
- C. Inner Join
- D. Cross Join

**Answer:** B

---

#### **44. Which relational operation can increase rows?**

- A. Selection
- B. Projection
- C. Join
- D. Difference

**Answer:** C

---

#### **45. Which AUTO\_INCREMENT property is TRUE?**

- A. Can have duplicates
- B. Can be NULL
- C. Auto increments automatically
- D. Resets on DELETE

**Answer:** C

---

#### **46. Which command resets AUTO\_INCREMENT?**

- A. DELETE
- B. DROP
- C. TRUNCATE
- D. UPDATE

**Answer:** C

---

#### **47. Which join type supports USING clause?**

- A. Natural
- B. Inner
- C. Cross
- D. Outer

**Answer:** B

---

#### **48. Which relational algebra symbol is $\sigma$ ?**

- A. Projection
- B. Selection
- C. Union
- D. Join

**Answer:** B

---

#### **49. Which symbol represents projection?**

- A.  $\pi$
- B.  $\sigma$
- C. U
- D.  $\times$

**Answer:** A

---

**50. Which symbol represents Cartesian product?**

- A.  $\cup$
- B.  $\cap$
- C.  $-$
- D.  $\times$

**Answer:** D

---

 **HARD MCQs (51–75)**

**51. Which join can be rewritten using WHERE clause?**

- A. Cross Join
- B. Natural Join
- C. Inner Join
- D. Left Join

**Answer:** C

---

**52. Which operation is non-commutative?**

- A. Union
- B. Intersection
- C. Difference
- D. Join

**Answer:** C

---

**53. Which join gives maximum rows?**

- A. Inner
- B. Left
- C. Right
- D. Cross

**Answer:** D

---

#### **54. Which join eliminates duplicate join columns?**

- A. Equi Join
- B. Natural Join
- C. Cross Join
- D. Outer Join

**Answer:** B

---

#### **55. Which query copies structure + data?**

```
CREATE TABLE t2 AS SELECT * FROM t1;
```

- A. Structure only
- B. Data only
- C. Both
- D. None

**Answer:** C

---

#### **56. Which method does NOT copy constraints?**

- A. CREATE TABLE LIKE
- B. CREATE TABLE AS SELECT
- C. Both
- D. None

**Answer:** B

---

#### **57. Which join condition causes row explosion?**

- A. Missing ON
- B. Wrong WHERE
- C. Cross Join
- D. All

**Answer:** D

---

#### **58. Which relational operation is costly?**

- A. Selection
- B. Projection

- C. Join
- D. Difference

**Answer:** C

---

### **59. Which join can simulate INTERSECT?**

- A. Left Join
- B. Right Join
- C. Inner Join
- D. Cross Join

**Answer:** C

---

### **60. Which join supports NULL padding?**

- A. Inner
- B. Outer
- C. Cross
- D. Natural

**Answer:** B

---

### **61. Which AUTO\_INCREMENT value is NOT allowed?**

- A. NULL
- B. 0
- C. Duplicate
- D. Sequential

**Answer:** C

---

### **62. Which join is irreversible?**

- A. Inner
- B. Natural
- C. Cross
- D. None

**Answer:** C

---

### **63. Which join violates normalization?**

- A. Natural
- B. Equi
- C. Cross
- D. Outer

**Answer:** C

---

### **64. Which operator is set-based?**

- A. Join
- B. Selection
- C. Projection
- D. Union

**Answer:** D

---

### **65. Which join keeps unmatched right rows?**

- A. Left Join
- B. Right Join
- C. Inner Join
- D. Natural Join

**Answer:** B

---

### **66. Which operation does NOT reduce rows?**

- A. Selection
- B. Projection
- C. Join
- D. Difference

**Answer:** B

---

### **67. Which join uses both equality and elimination?**

- A. Equi Join
- B. Natural Join
- C. Cross Join
- D. Left Join

**Answer:** B

---

**68. Which SQL clause is mandatory for ANSI join?**

- A. WHERE
- B. ON
- C. USING
- D. MATCH

**Answer:** B

---

**69. Which join supports self-join?**

- A. Inner
- B. Left
- C. Right
- D. All

**Answer:** D

---

**70. Which relational algebra operation is unary?**

- A. Join
- B. Union
- C. Selection
- D. Difference

**Answer:** C

---

**71. Which join can be chained multiple times?**

- A. Cross
- B. Inner
- C. Natural
- D. All

**Answer:** D

---

**72. Which operation produces schema mismatch error?**

- A. Join
- B. Union
- C. Selection
- D. Projection

**Answer:** B

---

### **73. Which AUTO\_INCREMENT issue occurs after DELETE?**

- A. Duplicate
- B. Gap in values
- C. Reset
- D. NULL

**Answer:** B

---

### **74. Which join should be avoided in production?**

- A. Inner
- B. Natural
- C. Cross
- D. Left

**Answer:** C

---

### **75. Which statement is TRUE?**

- A. UNION ALL is slower
- B. Natural join uses column names
- C. Cross join needs condition
- D. AUTO\_INCREMENT works on VARCHAR

**Answer:** B



## **SESSION 7 – DBMS**

**(Subqueries, EXISTS, TCL, DCL, Views, Indexes, Temp Tables)**

---

## EASY MCQs (1–25)

### 1. A subquery is:

- A. Query inside database
- B. Query inside another query
- C. Query inside view
- D. Query inside index

**Answer:** B

---

### 2. Which keyword checks existence of rows?

- A. IN
- B. EXISTS
- C. ANY
- D. ALL

**Answer:** B

---

### 3. Which command saves transaction permanently?

- A. ROLLBACK
- B. SAVEPOINT
- C. COMMIT
- D. END

**Answer:** C

---

### 4. Which command undoes changes?

- A. COMMIT
- B. ROLLBACK
- C. SAVEPOINT
- D. RESET

**Answer:** B

---

### 5. SAVEPOINT is used to:

- A. End transaction
- B. Rollback partially

- C. Commit partially
- D. Drop transaction

**Answer:** B

---

## 6. Which SQL category is GRANT?

- A. DDL
- B. DML
- C. DCL
- D. TCL

**Answer:** C

---

## 7. Which command removes privileges?

- A. GRANT
- B. DENY
- C. REVOKE
- D. DROP

**Answer:** C

---

## 8. A view is:

- A. Physical table
- B. Virtual table
- C. Index
- D. Constraint

**Answer:** B

---

## 9. Which view is based on single table?

- A. Complex view
- B. Simple view
- C. Materialized view
- D. Recursive view

**Answer:** B

---

## **10. Which view is based on multiple tables?**

- A. Simple view
- B. Temporary view
- C. Complex view
- D. Inline view

**Answer:** C

---

## **11. Which command creates view?**

- A. CREATE TABLE
- B. CREATE VIEW
- C. ALTER VIEW
- D. MAKE VIEW

**Answer:** B

---

## **12. Which object improves search performance?**

- A. View
- B. Trigger
- C. Index
- D. Cursor

**Answer:** C

---

## **13. Which command creates index?**

- A. CREATE INDEX
- B. ADD INDEX
- C. MAKE INDEX
- D. INSERT INDEX

**Answer:** A

---

## **14. Temporary tables exist till:**

- A. Server shutdown
- B. Database drop
- C. Session ends
- D. Commit

**Answer: C**

---

**15. Which keyword creates temporary table?**

- A. TEMP
- B. TEMPORARY
- C. LOCAL
- D. SESSION

**Answer: B**

---

**16. EXISTS returns:**

- A. Data
- B. Boolean
- C. Table
- D. Column

**Answer: B**

---

**17. NOT EXISTS means:**

- A. Returns rows
- B. Checks absence
- C. Deletes rows
- D. Updates rows

**Answer: B**

---

**18. TCL commands work on:**

- A. Structure
- B. Permissions
- C. Transactions
- D. Views

**Answer: C**

---

**19. DCL commands work on:**

- A. Data
- B. Permissions
- C. Transactions
- D. Views

**Answer:** B

---

## **20. Which command grants permission?**

- A. ALLOW
- B. GRANT
- C. PERMIT
- D. ACCESS

**Answer:** B

---

## **21. Which privilege allows data insertion?**

- A. SELECT
- B. INSERT
- C. UPDATE
- D. DELETE

**Answer:** B

---

## **22. Which privilege allows table deletion?**

- A. DROP
- B. DELETE
- C. REMOVE
- D. TRUNCATE

**Answer:** A

---

## **23. Which view stores no data?**

- A. Materialized
- B. Simple
- C. Virtual
- D. Indexed

**Answer:** C

---

## **24. Indexes are created on:**

- A. Rows
- B. Tables
- C. Columns
- D. Views

**Answer:** C

---

## **25. Which statement is TRUE?**

- A. View stores data
- B. Index improves insert speed
- C. Temp table is session-based
- D. EXISTS returns rows

**Answer:** C

---

## **MEDIUM MCQs (26–50)**

### **26. What does this query do?**

```
SELECT * FROM emp  
WHERE salary > (SELECT AVG(salary) FROM emp);
```

- A. Correlated subquery
- B. Nested subquery
- C. Join
- D. View

**Answer:** B

---

### **27. Which subquery executes for each row?**

- A. Nested
- B. Scalar
- C. Correlated
- D. Inline

**Answer:** C

---

## **28. What does EXISTS do?**

```
SELECT * FROM dept d  
WHERE EXISTS (SELECT 1 FROM emp e WHERE e.dept_id=d.id);
```

- A. Returns all depts
- B. Returns depts having employees
- C. Returns all employees
- D. Error

**Answer:** B

---

## **29. EXISTS is faster than IN when:**

- A. Subquery small
- B. Subquery large
- C. No index
- D. Using DISTINCT

**Answer:** B

---

## **30. Which command creates savepoint?**

```
SAVEPOINT sp1;
```

- A. Commit
- B. Rollback
- C. Savepoint
- D. End

**Answer:** C

---

## **31. Which command rolls back partially?**

```
ROLLBACK TO sp1;
```

- A. Full rollback
- B. Partial rollback
- C. Commit
- D. End

**Answer:** B

---

**32. Which privilege allows further granting?**

- A. SELECT
- B. INSERT
- C. GRANT OPTION
- D. UPDATE

**Answer:** C

---

**33. Which syntax grants privilege?**

GRANT SELECT ON emp TO user1;

- A. DML
- B. DDL
- C. DCL
- D. TCL

**Answer:** C

---

**34. Which command revokes privilege?**

REVOKE SELECT ON emp FROM user1;

- A. GRANT
- B. DROP
- C. REVOKE
- D. DENY

**Answer:** C

---

**35. Which view allows INSERT?**

- A. Complex view
- B. Join view
- C. Simple view
- D. Aggregated view

**Answer:** C

---

### **36. Which view cannot be updated?**

- A. Simple
- B. Complex
- C. Single-table
- D. Base view

**Answer:** B

---

### **37. Which query creates view?**

```
CREATE VIEW v1 AS SELECT * FROM emp;
```

- A. Table
- B. Index
- C. View
- D. Temp table

**Answer:** C

---

### **38. Which index improves WHERE clause?**

- A. Clustered
- B. Non-clustered
- C. Both
- D. None

**Answer:** C

---

### **39. Which statement drops index?**

```
DROP INDEX idx_name ON emp;
```

- A. Valid
- B. Invalid
- C. Alters table
- D. Deletes data

**Answer:** A

---

#### **40. Which command creates temporary table?**

`CREATE TEMPORARY TABLE t1(id INT);`

- A. Permanent
- B. Session based
- C. Global
- D. Shared

**Answer:** B

---

#### **41. Which subquery returns single value?**

- A. Correlated
- B. Scalar
- C. Inline
- D. Nested

**Answer:** B

---

#### **42. Which command ends transaction?**

- A. COMMIT
- B. ROLLBACK
- C. SAVEPOINT
- D. Both A & B

**Answer:** D

---

#### **43. Which privilege is object-level?**

- A. CREATE USER
- B. SELECT
- C. GRANT OPTION
- D. ROLE

**Answer:** B

---

#### **44. Which index slows INSERT?**

- A. No index
- B. Single index

- C. Multiple indexes
- D. Clustered index

**Answer:** C

---

#### **45. Which EXISTS returns false?**

- A. Subquery returns rows
- B. Subquery empty
- C. NULL rows
- D. Duplicate rows

**Answer:** B

---

#### **46. Which command makes view read-only?**

- A. WITH CHECK OPTION
- B. WITH READ ONLY
- C. NO UPDATE
- D. LOCK VIEW

**Answer:** B

---

#### **47. Which statement is TRUE?**

- A. Index stores data
- B. View stores data
- C. Temp table drops automatically
- D. Correlated subquery runs once

**Answer:** C

---

#### **48. Which clause enforces view condition?**

- A. WHERE
- B. HAVING
- C. WITH CHECK OPTION
- D. DISTINCT

**Answer:** C

---

## **49. Which index is created automatically?**

- A. Unique
- B. Primary key
- C. Foreign key
- D. Composite

**Answer:** B

---

## **50. Which statement is FALSE?**

- A. EXISTS checks rows
- B. Correlated subquery is slow
- C. View improves performance
- D. Index speeds SELECT

**Answer:** C

---

## **HARD MCQs (51–75)**

### **51. Which subquery executes row-by-row?**

- A. Nested
- B. Inline
- C. Correlated
- D. Scalar

**Answer:** C

---

### **52. Which is NOT allowed in view?**

- A. WHERE
- B. JOIN
- C. ORDER BY
- D. GROUP BY (without alias)

**Answer:** C

---

### **53. Which TCL command creates logical boundary?**

- A. COMMIT
- B. ROLLBACK

- C. SAVEPOINT
- D. END

**Answer:** C

---

#### **54. Which privilege is system-level?**

- A. SELECT
- B. UPDATE
- C. CREATE USER
- D. DELETE

**Answer:** C

---

#### **55. Which index is best for range queries?**

- A. Hash index
- B. B-Tree index
- C. Bitmap index
- D. Fulltext index

**Answer:** B

---

#### **56. Which subquery is most expensive?**

- A. Scalar
- B. Nested
- C. Correlated
- D. Inline

**Answer:** C

---

#### **57. Which EXISTS alternative is slower?**

- A. JOIN
- B. IN
- C. NOT IN
- D. EXISTS

**Answer:** C

---

## **58. Which command revokes grant option?**

```
REVOKE GRANT OPTION FOR SELECT ON emp FROM user1;
```

- A. Removes select
- B. Removes grant power
- C. Drops user
- D. Error

**Answer:** B

---

## **59. Which view modification is invalid?**

- A. INSERT into simple view
- B. UPDATE simple view
- C. DELETE simple view
- D. INSERT into complex view

**Answer:** D

---

## **60. Which index increases disk usage?**

- A. No index
- B. Primary key
- C. Secondary index
- D. All indexes

**Answer:** D

---

## **61. Which transaction is durable?**

- A. Rolled back
- B. Committed
- C. Savepoint
- D. Active

**Answer:** B

---

## **62. Which statement about temp tables is TRUE?**

- A. Shared across sessions
- B. Auto dropped on commit

- C. Auto dropped on disconnect
- D. Stored on disk permanently

**Answer:** C

---

### **63. Which EXISTS ignores column values?**

- A. EXISTS
- B. IN
- C. ANY
- D. ALL

**Answer:** A

---

### **64. Which query creates index on multiple columns?**

```
CREATE INDEX idx ON emp(dept,salary);
```

- A. Single index
- B. Composite index
- C. Clustered index
- D. Invalid

**Answer:** B

---

### **65. Which view ensures data consistency?**

- A. Simple
- B. Complex
- C. WITH CHECK OPTION
- D. Read-only

**Answer:** C

---

### **66. Which command ends savepoint scope?**

- A. COMMIT
- B. ROLLBACK
- C. SAVEPOINT
- D. END

**Answer:** A

---

**67. Which subquery cannot stand alone?**

- A. Scalar
- B. Correlated
- C. Nested
- D. Inline

**Answer:** B

---

**68. Which index is automatically dropped with table?**

- A. Unique
- B. Primary
- C. All
- D. None

**Answer:** C

---

**69. Which privilege allows index creation?**

- A. CREATE
- B. ALTER
- C. INDEX
- D. ALL

**Answer:** B

---

**70. Which statement is TRUE?**

- A. NOT IN handles NULL well
- B. EXISTS ignores NULL issue
- C. IN faster than EXISTS always
- D. Views always updatable

**Answer:** B

---

**71. Which command prevents rollback?**

- A. SAVEPOINT
- B. COMMIT

- C. ROLLBACK
- D. END

**Answer:** B

---

## 72. Which object can hide columns?

- A. Index
- B. View
- C. Trigger
- D. Cursor

**Answer:** B

---

## 73. Which query uses correlated subquery?

```
SELECT * FROM emp e  
WHERE salary > (SELECT AVG(salary) FROM emp WHERE dept=e.dept);
```

- A. Nested
- B. Scalar
- C. Correlated
- D. Join

**Answer:** C

---

## 74. Which statement is FALSE?

- A. Index speeds SELECT
- B. Index slows INSERT
- C. View stores data
- D. Savepoint allows partial rollback

**Answer:** C

---

## 75. Which feature improves security?

- A. Index
- B. View
- C. Subquery
- D. Join

**Answer:** B

## SESSION 8 – DBMS

(Indexes, ACID, Storage Engines, Temp Tables, SQL Revision)

---

### EASY MCQs (1–20)

#### **1. Indexes are mainly used to:**

- A. Store data
- B. Improve query performance
- C. Enforce security
- D. Reduce storage

**Answer:** B

---

#### **2. Which operation benefits most from index?**

- A. INSERT
- B. DELETE
- C. SELECT
- D. UPDATE

**Answer:** C

---

#### **3. Which index is created automatically?**

- A. Unique index
- B. Foreign key index
- C. Primary key index
- D. Composite index

**Answer:** C

---

#### **4. Which command creates index?**

`CREATE INDEX idx_name ON emp(name);`

- A. CREATE TABLE
- B. CREATE VIEW
- C. CREATE INDEX
- D. ALTER TABLE

**Answer:** C

---

**5. Temporary tables are dropped when:**

- A. COMMIT is issued
- B. ROLLBACK is issued
- C. Session ends
- D. Table is truncated

**Answer:** C

---

**6. ACID stands for:**

- A. Atomicity, Consistency, Isolation, Durability
- B. Accuracy, Control, Integrity, Data
- C. Atomicity, Concurrency, Isolation, Data
- D. Access, Control, Isolation, Durability

**Answer:** A

---

**7. Which ACID property ensures all-or-nothing?**

- A. Consistency
- B. Isolation
- C. Atomicity
- D. Durability

**Answer:** C

---

**8. Which ACID property ensures committed data survives crash?**

- A. Atomicity
- B. Consistency
- C. Isolation
- D. Durability

**Answer:** D

---

**9. Which storage engine supports transactions?**

- A. MyISAM
- B. InnoDB
- C. MEMORY
- D. CSV

**Answer:** B

---

**10. Which storage engine does NOT support foreign keys?**

- A. InnoDB
- B. MyISAM
- C. NDB
- D. All

**Answer:** B

---

**11. Database schema represents:**

- A. Actual data
- B. Database structure
- C. Index data
- D. Transactions

**Answer:** B

---

**12. Database instance represents:**

- A. Schema definition
- B. Running database data
- C. SQL commands
- D. Index structure

**Answer:** B

---

**13. Which engine is default in MySQL?**

- A. MyISAM
- B. InnoDB
- C. MEMORY
- D. CSV

**Answer:** B

---

#### **14. Which index improves text search?**

- A. B-Tree
- B. Hash
- C. Full-Text
- D. Bitmap

**Answer:** C

---

#### **15. Which SQL command shows indexes?**

`SHOW INDEX FROM emp;`

- A. Displays constraints
- B. Displays columns
- C. Displays indexes
- D. Displays data

**Answer:** C

---

#### **16. Which ACID property prevents dirty reads?**

- A. Atomicity
- B. Consistency
- C. Isolation
- D. Durability

**Answer:** C

---

#### **17. Which table type stores data in RAM?**

- A. InnoDB
- B. MyISAM
- C. MEMORY
- D. TEMPORARY

**Answer:** C

---

**18. Which command creates temporary table?**

`CREATE TEMPORARY TABLE t1(id INT);`

- A. Permanent
- B. Global
- C. Session-specific
- D. Shared

**Answer:** C

---

**19. Which statement is TRUE?**

- A. Index speeds INSERT
- B. Index slows SELECT
- C. Index slows INSERT
- D. Index stores table data

**Answer:** C

---

**20. Which engine is best for read-heavy systems?**

- A. InnoDB
- B. MyISAM
- C. MEMORY
- D. CSV

**Answer:** B

---

 **MEDIUM MCQs (21–40)**

**21. Which index is best for range queries?**

- A. Hash
- B. B-Tree
- C. Full-Text
- D. Bitmap

**Answer:** B

---

## **22. Which ACID property ensures valid state?**

- A. Atomicity
- B. Consistency
- C. Isolation
- D. Durability

**Answer:** B

---

## **23. What does this do?**

```
DROP INDEX idx_name ON emp;
```

- A. Drops column
- B. Drops table
- C. Drops index
- D. Drops constraint

**Answer:** C

---

## **24. Which engine supports row-level locking?**

- A. MyISAM
- B. InnoDB
- C. CSV
- D. MEMORY

**Answer:** B

---

## **25. Which index slows down UPDATE?**

- A. No index
- B. Primary index
- C. Multiple indexes
- D. Clustered index

**Answer:** C

---

## **26. Which statement about schema is correct?**

- A. Changes frequently
- B. Stores actual data
- C. Rarely changes
- D. Created on INSERT

**Answer:** C

---

## **27. Which isolation issue occurs without isolation?**

- A. Dirty read
- B. Lost update
- C. Phantom read
- D. All

**Answer:** D

---

## **28. Which engine supports crash recovery?**

- A. MyISAM
- B. InnoDB
- C. MEMORY
- D. CSV

**Answer:** B

---

## **29. Which command changes engine?**

`ALTER TABLE emp ENGINE=MyISAM;`

- A. Changes schema
- B. Changes engine
- C. Changes data
- D. Error

**Answer:** B

---

## **30. Which index is composite?**

`CREATE INDEX idx ON emp(dept, salary);`

- A. Single column
- B. Multi-column

- C. Unique
- D. Clustered

**Answer:** B

---

### **31. Which table type supports foreign keys?**

- A. MEMORY
- B. MyISAM
- C. InnoDB
- D. TEMPORARY

**Answer:** C

---

### **32. Which SQL command affects schema?**

- A. INSERT
- B. DELETE
- C. ALTER
- D. SELECT

**Answer:** C

---

### **33. Which index is NOT suitable for LIKE '%abc'?**

- A. B-Tree
- B. Hash
- C. Full-Text
- D. None

**Answer:** A

---

### **34. Which engine supports full-text index?**

- A. InnoDB
- B. MyISAM
- C. Both
- D. None

**Answer:** C

---

### **35. Which command removes temp table manually?**

DROP TEMPORARY TABLE t1;

- A. Optional
- B. Mandatory
- C. Invalid
- D. Commits

**Answer:** A

---

### **36. Which index improves JOIN performance?**

- A. Primary key index
- B. Foreign key index
- C. Both
- D. None

**Answer:** C

---

### **37. Which ACID property ensures concurrent safety?**

- A. Atomicity
- B. Isolation
- C. Durability
- D. Consistency

**Answer:** B

---

### **38. Which storage engine uses table-level locking?**

- A. InnoDB
- B. MyISAM
- C. MEMORY
- D. NDB

**Answer:** B

---

### **39. Which index consumes most space?**

- A. No index
- B. Single index

- C. Multiple indexes
- D. Primary key

**Answer:** C

---

#### **40. Which statement is FALSE?**

- A. InnoDB supports transactions
- B. MyISAM supports foreign keys
- C. Index speeds SELECT
- D. Temp table is session based

**Answer:** B

---

### **HARD MCQs (41–60)**

#### **41. Which isolation level prevents phantom reads?**

- A. Read Uncommitted
- B. Read Committed
- C. Repeatable Read
- D. Serializable

**Answer:** D

---

#### **42. Which index type is fastest for equality search?**

- A. B-Tree
- B. Hash
- C. Full-Text
- D. Bitmap

**Answer:** B

---

#### **43. Which engine supports MVCC?**

- A. MyISAM
- B. InnoDB
- C. MEMORY
- D. CSV

**Answer:** B

---

**44. Which index will NOT be used?**

WHERE name LIKE '%abc' ;

- A. B-Tree
- B. Hash
- C. Full-Text
- D. None

**Answer:** A

---

**45. Which ACID property may reduce performance?**

- A. Atomicity
- B. Consistency
- C. Isolation
- D. Durability

**Answer:** C

---

**46. Which engine is fastest for temporary calculations?**

- A. InnoDB
- B. MyISAM
- C. MEMORY
- D. CSV

**Answer:** C

---

**47. Which index is clustered in InnoDB?**

- A. Unique
- B. Foreign key
- C. Primary key
- D. Composite

**Answer:** C

---

**48. Which scenario breaks durability?**

- A. Power failure after commit
- B. Power failure before commit
- C. Savepoint rollback
- D. Read only query

**Answer:** A

---

#### **49. Which engine stores data in separate files?**

- A. InnoDB
- B. MyISAM
- C. MEMORY
- D. TEMPORARY

**Answer:** B

---

#### **50. Which command rebuilds index?**

- A. DROP INDEX + CREATE
- B. UPDATE
- C. SELECT
- D. COMMIT

**Answer:** A

---

#### **51. Which feature ensures atomicity?**

- A. Logging
- B. Locking
- C. Undo logs
- D. Indexing

**Answer:** C

---

#### **52. Which index slows bulk INSERT most?**

- A. No index
- B. One index
- C. Multiple indexes
- D. Primary key only

**Answer:** C

---

**53. Which engine supports foreign key cascade?**

- A. MyISAM
- B. InnoDB
- C. MEMORY
- D. CSV

**Answer:** B

---

**54. Which isolation level is default in MySQL?**

- A. Read Committed
- B. Repeatable Read
- C. Serializable
- D. Read Uncommitted

**Answer:** B

---

**55. Which object exists only during connection?**

- A. View
- B. Index
- C. Temporary table
- D. Schema

**Answer:** C

---

**56. Which ACID property is ensured by redo logs?**

- A. Atomicity
- B. Consistency
- C. Isolation
- D. Durability

**Answer:** D

---

**57. Which engine does NOT support rollback?**

- A. InnoDB
- B. MyISAM

- C. NDB
- D. None

**Answer:** B

---

### **58. Which index is best avoided on frequently updated column?**

- A. B-Tree
- B. Hash
- C. Primary key
- D. Any index

**Answer:** D

---

### **59. Which statement is TRUE?**

- A. Schema changes frequently
- B. Instance is static
- C. Index increases disk usage
- D. ACID is optional

**Answer:** C

---

### **60. Which feature mainly differentiates InnoDB from MyISAM?**

- A. Speed
- B. Indexing
- C. Transaction support
- D. SQL syntax

**Answer:** C

## **SESSION 9 – MySQL Programming & Stored Procedures**

---

 **EASY MCQs (1–15)**

## **1. MySQL programming mainly uses:**

- A. Java
- B. PL/SQL
- C. SQL & procedural extensions
- D. Python

**Answer:** C

---

## **2. Stored procedures are stored in:**

- A. Client system
- B. Application code
- C. Database server
- D. Operating system

**Answer:** C

---

## **3. Which keyword creates a stored procedure?**

- A. CREATE FUNCTION
- B. CREATE PROCEDURE
- C. MAKE PROCEDURE
- D. ADD PROCEDURE

**Answer:** B

---

## **4. Stored procedures help in:**

- A. Increasing redundancy
- B. Improving performance
- C. Increasing network traffic
- D. Data duplication

**Answer:** B

---

## **5. Which delimiter is commonly changed while creating procedure?**

- A. ;
- B. :
- C. \$\$
- D. Any symbol

**Answer:** D

---

**6. Which parameter type is input-only?**

- A. OUT
- B. IN
- C. INOUT
- D. VAR

**Answer:** B

---

**7. Which parameter type is output-only?**

- A. IN
- B. OUT
- C. INOUT
- D. RETURN

**Answer:** B

---

**8. Which parameter type is both input and output?**

- A. IN
- B. OUT
- C. INOUT
- D. BOTH

**Answer:** C

---

**9. Which command executes a procedure?**

- A. RUN
- B. EXEC
- C. CALL
- D. USE

**Answer:** C

---

**10. Stored procedures reduce:**

- A. Compilation time
- B. Network traffic
- C. Disk usage
- D. Index usage

**Answer:** B

---

**11. Which statement ends a procedure body?**

- A. END;
- B. STOP;
- C. FINISH;
- D. EXIT;

**Answer:** A

---

**12. Which keyword begins procedure block?**

- A. START
- B. BEGIN
- C. OPEN
- D. CREATE

**Answer:** B

---

**13. Stored procedures are:**

- A. Compiled every time
- B. Precompiled
- C. Interpreted
- D. Cached only

**Answer:** B

---

**14. Which command deletes a procedure?**

- A. DELETE PROCEDURE
- B. REMOVE PROCEDURE
- C. DROP PROCEDURE
- D. ERASE PROCEDURE

**Answer:** C

---

## 15. Which is TRUE?

- A. Procedures return multiple values using OUT
- B. Procedures must return one value
- C. Procedures cannot accept parameters
- D. Procedures run on client side

**Answer:** A

---

## MEDIUM MCQs (16–30)

### 16. What does this procedure do?

```
CREATE PROCEDURE p1()
BEGIN
    SELECT * FROM emp;
END;
```

- A. Inserts data
- B. Updates data
- C. Displays all employees
- D. Deletes data

**Answer:** C

---

### 17. Which command changes delimiter?

```
DELIMITER //
```

- A. Ends procedure
- B. Starts procedure
- C. Changes statement terminator
- D. Creates procedure

**Answer:** C

---

### 18. Which procedure parameter receives value from CALL?

- A. IN
- B. OUT

- C. INOUT
- D. RETURN

**Answer:** A

---

### 19. What will this do?

`CALL p1();`

- A. Create procedure
- B. Modify procedure
- C. Execute procedure
- D. Delete procedure

**Answer:** C

---

### 20. Which procedure parameter sends value back?

- A. IN
- B. OUT
- C. INOUT
- D. ALL

**Answer:** B

---

### 21. What does this procedure do?

```
CREATE PROCEDURE add_emp(IN eid INT, IN ename VARCHAR(20))
BEGIN
    INSERT INTO emp VALUES(eid, ename);
END;
```

- A. Deletes employee
- B. Adds employee
- C. Updates employee
- D. Reads employee

**Answer:** B

---

### 22. Which CALL is correct?

`CALL add_emp(101, 'Amit');`

- A. Correct
- B. Incorrect – missing OUT
- C. Incorrect – missing delimiter
- D. Incorrect – syntax error

**Answer:** A

---

### **23. Which parameter must be a variable?**

- A. IN
- B. OUT
- C. INOUT
- D. Both B & C

**Answer:** D

---

### **24. Which keyword declares parameter direction?**

- A. PARAM
- B. MODE
- C. IN / OUT / INOUT
- D. ARG

**Answer:** C

---

### **25. Which procedure feature improves security?**

- A. Direct table access
- B. Controlled access via procedure
- C. Indexing
- D. Temporary tables

**Answer:** B

---

### **26. What does this procedure return?**

```
CREATE PROCEDURE count_emp(OUT total INT)
BEGIN
    SELECT COUNT(*) INTO total FROM emp;
END;
```

- A. Employee details
- B. Total salary
- C. Number of employees
- D. Average salary

**Answer:** C

---

## 27. How to get OUT parameter value?

```
CALL count_emp(@c);  
SELECT @c;
```

- A. Using session variable
- B. Using table
- C. Using function
- D. Not possible

**Answer:** A

---

## 28. Which variable type stores OUT value?

- A. Local variable
- B. Global variable
- C. User-defined variable
- D. Table column

**Answer:** C

---

## 29. Which statement is TRUE?

- A. OUT parameters accept literals
- B. IN parameters return values
- C. INOUT parameters act as both
- D. Procedures cannot use SELECT

**Answer:** C

---

## 30. Which command shows procedure code?

```
SHOW CREATE PROCEDURE p1;
```

- A. Executes procedure
- B. Deletes procedure
- C. Displays procedure definition
- D. Modifies procedure

**Answer:** C

---

## HARD MCQs (31–45)

### **31. Which procedure parameter cannot accept literal values?**

- A. IN
- B. OUT
- C. INOUT
- D. Both B & C

**Answer:** D

---

### **32. Which procedure executes fastest?**

- A. Client-side query
- B. Stored procedure
- C. Dynamic SQL
- D. View

**Answer:** B

---

### **33. Which feature reduces SQL parsing overhead?**

- A. Views
- B. Indexes
- C. Stored procedures
- D. Triggers

**Answer:** C

---

### **34. What does this procedure do?**

```
CREATE PROCEDURE inc_sal(INOUT sal INT)
BEGIN
    SET sal = sal + 1000;
END;
```

- A. Reads salary
- B. Returns salary
- C. Updates passed salary value
- D. Inserts salary

**Answer:** C

---

### **35. How to call above procedure?**

```
SET @s=5000;  
CALL inc_sal(@s);  
SELECT @s;
```

- A. @s = 5000
- B. @s = 6000
- C. Error
- D. NULL

**Answer:** B

---

### **36. Which procedure feature supports modular programming?**

- A. Index
- B. Parameterization
- C. Views
- D. Tables

**Answer:** B

---

### **37. Which statement is FALSE?**

- A. Procedures can contain loops
- B. Procedures can call other procedures
- C. Procedures must return a value
- D. Procedures can modify data

**Answer:** C

---

### **38. Which command modifies procedure?**

- A. ALTER PROCEDURE
- B. UPDATE PROCEDURE
- C. DROP & CREATE
- D. MODIFY PROCEDURE

**Answer:** C

---

### **39. Which block is mandatory in procedure?**

- A. DECLARE
- B. BEGIN...END
- C. IF
- D. LOOP

**Answer:** B

---

### **40. Which scope is used for OUT parameters?**

- A. Local
- B. Session
- C. Transaction
- D. Table

**Answer:** B

---

### **41. Which procedure type is safest?**

- A. Without parameters
- B. With dynamic SQL
- C. With IN parameters
- D. With direct table access

**Answer:** C

---

### **42. Which advantage is NOT of stored procedures?**

- A. Reduced network traffic
- B. Reusability
- C. Platform dependency
- D. Security

**Answer:** C

---

#### **43. Which stored procedure limitation exists?**

- A. Cannot use SELECT
- B. Harder debugging
- C. Cannot accept parameters
- D. Cannot be reused

**Answer:** B

---

#### **44. Which statement about INOUT is TRUE?**

- A. It cannot be modified
- B. It must be literal
- C. It must be variable
- D. It returns no value

**Answer:** C

---

#### **45. Which scenario best fits stored procedure?**

- A. One-time query
- B. Repeated business logic
- C. Simple SELECT
- D. Read-only reporting

**Answer:** B

---

## **SESSION 10 – MySQL Flow Control & Conditionals**

(LOOP, WHILE, REPEAT, IF, IF-ELSE, CASE in Stored Procedures)

---

### **EASY MCQs (1–20)**

**1. Flow control statements are used to:**

- A. Create tables
- B. Control execution order
- C. Create indexes
- D. Grant privileges

**Answer:** B

---

## **2. Which loop checks condition before execution?**

- A. LOOP
- B. WHILE
- C. REPEAT
- D. CASE

**Answer:** B

---

## **3. Which loop executes at least once?**

- A. WHILE
- B. LOOP
- C. REPEAT
- D. IF

**Answer:** C

---

## **4. Which keyword exits a LOOP?**

- A. EXIT
- B. BREAK
- C. LEAVE
- D. STOP

**Answer:** C

---

## **5. Which keyword skips current iteration?**

- A. SKIP
- B. NEXT
- C. ITERATE
- D. CONTINUE

**Answer:** C

---

**6. Which conditional statement is basic?**

- A. CASE
- B. IF
- C. LOOP
- D. REPEAT

**Answer:** B

---

**7. IF statement ends with:**

- A. END
- B. END IF
- C. END LOOP
- D. STOP

**Answer:** B

---

**8. Which statement supports multiple conditions?**

- A. IF
- B. IF-ELSE
- C. CASE
- D. WHILE

**Answer:** C

---

**9. Flow control statements are used inside:**

- A. Tables
- B. Views
- C. Stored procedures
- D. Indexes

**Answer:** C

---

**10. Which statement is TRUE?**

- A. WHILE executes once
- B. REPEAT checks condition at end

- C. LOOP has condition
- D. CASE is a loop

**Answer:** B

---

### **11. Which keyword starts LOOP?**

- A. START
- B. LOOP
- C. BEGIN
- D. WHILE

**Answer:** B

---

### **12. Which loop has no condition?**

- A. WHILE
- B. REPEAT
- C. LOOP
- D. CASE

**Answer:** C

---

### **13. CASE statement ends with:**

- A. END
- B. END CASE
- C. END IF
- D. END LOOP

**Answer:** B

---

### **14. Conditional statements are used to:**

- A. Repeat logic
- B. Make decisions
- C. Create procedures
- D. Handle errors

**Answer:** B

---

**15. Which block is mandatory in procedures?**

- A. LOOP
- B. IF
- C. BEGIN...END
- D. CASE

**Answer:** C

---

**16. REPEAT loop uses which keyword?**

- A. UNTIL
- B. WHILE
- C. IF
- D. END

**Answer:** A

---

**17. Which control statement uses labels?**

- A. IF
- B. LOOP
- C. CASE
- D. WHILE

**Answer:** B

---

**18. Which statement replaces multiple IF-ELSE?**

- A. LOOP
- B. WHILE
- C. CASE
- D. REPEAT

**Answer:** C

---

**19. Flow control logic executes on:**

- A. Client
- B. Application
- C. Server
- D. Browser

**Answer:** C

---

**20. Which statement is NOT flow control?**

- A. LOOP
- B. IF
- C. CASE
- D. SELECT

**Answer:** D

---

 **MEDIUM MCQs (21–40)**

**21. What does this do?**

```
WHILE i < 5 DO
    SET i = i + 1;
END WHILE;
```

- A. Infinite loop
- B. Executes 5 times
- C. Executes once
- D. Syntax error

**Answer:** B

---

**22. What does this ensure?**

```
REPEAT
    SET i = i + 1;
UNTIL i = 5
END REPEAT;
```

- A. Executes zero times
- B. Executes at least once
- C. Infinite loop
- D. Error

**Answer:** B

---

### **23. Which keyword exits WHILE early?**

- A. BREAK
- B. EXIT
- C. LEAVE
- D. STOP

**Answer:** C

---

### **24. What does this do?**

```
IF a > b THEN  
    SET max = a;  
END IF;
```

- A. Loop
- B. Condition check
- C. Error
- D. Assignment only

**Answer:** B

---

### **25. Which IF form supports alternative logic?**

- A. IF
- B. IF-ELSE
- C. IF-ELSEIF
- D. All

**Answer:** D

---

### **26. What does this CASE do?**

```
CASE grade  
    WHEN 'A' THEN SET msg='Excellent';  
    WHEN 'B' THEN SET msg='Good';  
END CASE;
```

- A. Loop
- B. Multiple condition check
- C. Error
- D. Insert

**Answer:** B

---

**27. Which statement executes until condition becomes FALSE?**

- A. LOOP
- B. WHILE
- C. REPEAT
- D. CASE

**Answer:** B

---

**28. Which keyword skips to next iteration?**

`ITERATE myloop;`

- A. Exits loop
- B. Skips iteration
- C. Ends procedure
- D. Error

**Answer:** B

---

**29. Which statement is TRUE?**

- A. LOOP must have condition
- B. WHILE must have condition
- C. REPEAT has no condition
- D. CASE is loop

**Answer:** B

---

**30. Which block labels are valid?**

```
myloop: LOOP  
...  
END LOOP myloop;
```

- A. Valid
- B. Invalid
- C. Partial
- D. Error

**Answer: A**

---

**31. Which control structure is best for menu logic?**

- A. WHILE
- B. LOOP
- C. CASE
- D. REPEAT

**Answer: C**

---

**32. What does this do?**

```
IF x IS NULL THEN  
    SET x = 0;  
END IF;
```

- A. Loop
- B. Null handling
- C. Join
- D. Error

**Answer: B**

---

**33. Which loop is safest for unknown iterations?**

- A. WHILE
- B. REPEAT
- C. LOOP
- D. CASE

**Answer: C**

---

**34. Which conditional supports ELSEIF?**

- A. IF
- B. CASE
- C. WHILE
- D. LOOP

**Answer: A**

---

**35. Which statement checks condition at end?**

- A. WHILE
- B. LOOP
- C. REPEAT
- D. CASE

**Answer:** C

---

**36. Which flow control increases CPU usage if misused?**

- A. SELECT
- B. LOOP
- C. INSERT
- D. CREATE

**Answer:** B

---

**37. What does this do?**

`LEAVE myloop;`

- A. Skips iteration
- B. Exits loop
- C. Ends procedure
- D. Error

**Answer:** B

---

**38. Which statement groups logic best?**

- A. BEGIN...END
- B. LOOP
- C. CASE
- D. IF

**Answer:** A

---

**39. Which loop is condition-controlled?**

- A. LOOP
- B. WHILE
- C. CASE
- D. SWITCH

**Answer:** B

---

#### **40. Which control structure avoids deep IF nesting?**

- A. WHILE
- B. LOOP
- C. CASE
- D. REPEAT

**Answer:** C

---

### **HARD MCQs (41–60)**

#### **41. Which loop can cause infinite execution easily?**

- A. WHILE
- B. REPEAT
- C. LOOP
- D. CASE

**Answer:** C

---

#### **42. Which structure is most readable for multi-condition?**

- A. IF
- B. IF-ELSE
- C. CASE
- D. WHILE

**Answer:** C

---

#### **43. Which procedure is valid?**

```
CREATE PROCEDURE p()
BEGIN
    DECLARE i INT DEFAULT 1;
    WHILE i <= 3 DO
```

```
SELECT i;  
SET i = i + 1;  
END WHILE;  
END;
```

- A. Invalid
- B. Valid
- C. Syntax error
- D. Runtime error

**Answer:** B

---

#### 44. Which control avoids redundant checks?

- A. IF
- B. IF-ELSEIF
- C. CASE
- D. LOOP

**Answer:** C

---

#### 45. Which loop is pre-test loop?

- A. REPEAT
- B. LOOP
- C. WHILE
- D. CASE

**Answer:** C

---

#### 46. Which loop is post-test loop?

- A. WHILE
- B. LOOP
- C. REPEAT
- D. CASE

**Answer:** C

---

#### 47. Which keyword ends CASE?

- A. END
- B. END IF
- C. END LOOP
- D. END CASE

**Answer:** D

---

**48. Which is NOT allowed in stored procedure?**

- A. IF
- B. LOOP
- C. GOTO
- D. CASE

**Answer:** C

---

**49. Which is TRUE?**

- A. CASE executes sequentially
- B. CASE stops after match
- C. CASE needs condition only once
- D. CASE is loop

**Answer:** B

---

**50. Which structure supports labels?**

- A. IF
- B. CASE
- C. LOOP
- D. REPEAT

**Answer:** C

---

**51. Which approach improves maintainability?**

- A. Nested IFs
- B. CASE statements
- C. Multiple loops
- D. Hardcoded values

**Answer:** B

---

**52. Which loop should be avoided without EXIT?**

- A. WHILE
- B. REPEAT
- C. LOOP
- D. CASE

**Answer:** C

---

**53. Which control structure is best for counters?**

- A. CASE
- B. LOOP
- C. WHILE
- D. IF

**Answer:** C

---

**54. Which statement is FALSE?**

- A. WHILE checks first
- B. REPEAT checks last
- C. LOOP checks condition
- D. CASE is conditional

**Answer:** C

---

**55. Which structure supports fall-through?**

- A. IF
- B. CASE
- C. LOOP
- D. WHILE

**Answer:** B

---

**56. Which feature reduces SQL duplication?**

- A. IF
- B. CASE

- C. Stored procedures
- D. LOOP

**Answer:** C

---

### **57. Which flow control can degrade DB performance?**

- A. SELECT
- B. LOOP with heavy logic
- C. INSERT
- D. CREATE

**Answer:** B

---

### **58. Which is best for fixed iterations?**

- A. WHILE
- B. LOOP
- C. REPEAT
- D. CASE

**Answer:** A

---

### **59. Which approach avoids logical errors?**

- A. Nested loops
- B. Clear CASE logic
- C. Multiple EXITS
- D. Infinite loops

**Answer:** B

---

### **60. Which statement is TRUE?**

- A. Flow control runs client side
- B. CASE is loop
- C. WHILE may not run
- D. REPEAT may skip execution

**Answer:** C



# SESSION 11 – MySQL Functions & Loop Control

(ITERATE, LEAVE, User-Defined Functions, Built-in Functions)

---

## ● EASY MCQs (1–15)

**1. Which keyword skips current loop iteration?**

- A. LEAVE
- B. BREAK
- C. ITERATE
- D. CONTINUE

**Answer:** C

---

**2. Which keyword exits a loop completely?**

- A. STOP
- B. LEAVE
- C. EXIT
- D. END

**Answer:** B

---

**3. A MySQL function must:**

- A. Modify table data
- B. Return a value
- C. Use LOOP
- D. Use cursor

**Answer:** B

---

**4. Which keyword creates a function?**

- A. CREATE PROCEDURE
- B. CREATE FUNCTION
- C. MAKE FUNCTION
- D. ADD FUNCTION

**Answer:** B

---

### **5. Which block is mandatory in a function?**

- A. LOOP
- B. IF
- C. RETURN
- D. CURSOR

**Answer:** C

---

### **6. Which built-in function converts text to uppercase?**

- A. LOWER()
- B. UCASE()
- C. TOUPPER()
- D. UPPER()

**Answer:** D

---

### **7. Which function returns string length?**

- A. LENGTH()
- B. SIZE()
- C. COUNT()
- D. LEN()

**Answer:** A

---

### **8. Which numeric function rounds value?**

- A. FLOOR()
- B. CEIL()
- C. ROUND()
- D. TRUNC()

**Answer:** C

---

## **9. Which function returns current date?**

- A. NOW()
- B. CURDATE()
- C. SYSDATE()
- D. TODAY()

**Answer:** B

---

## **10. Functions execute on:**

- A. Client
- B. Application
- C. Server
- D. Browser

**Answer:** C

---

## **11. Which function extracts year from date?**

- A. YEAR()
- B. DATE()
- C. EXTRACT()
- D. GETYEAR()

**Answer:** A

---

## **12. Which built-in function handles NULL?**

- A. NVL()
- B. IFNULL()
- C. ISNULL()
- D. COALESCE()

**Answer:** B

---

## **13. Which is TRUE?**

- A. Functions can modify tables
- B. Functions must return value

- C. Functions cannot take parameters
- D. Functions use CALL

**Answer:** B

---

#### **14. Which command deletes function?**

- A. REMOVE FUNCTION
- B. DELETE FUNCTION
- C. DROP FUNCTION
- D. ERASE FUNCTION

**Answer:** C

---

#### **15. Which statement is TRUE?**

- A. ITERATE exits loop
- B. LEAVE skips iteration
- C. ITERATE skips iteration
- D. ITERATE ends procedure

**Answer:** C

---

### **MEDIUM MCQs (16–30)**

#### **16. What does this do?**

`ITERATE myloop;`

- A. Ends loop
- B. Skips current iteration
- C. Ends procedure
- D. Error

**Answer:** B

---

#### **17. What does this do?**

`LEAVE myloop;`

- A. Skips iteration
- B. Ends loop
- C. Ends function
- D. Error

**Answer:** B

---

### 18. Which function returns substring?

- A. SUBSTR()
- B. SPLIT()
- C. PART()
- D. MIDSTR()

**Answer:** A

---

### 19. What does this function do?

```
CREATE FUNCTION addnum(a INT, b INT)
RETURNS INT
RETURN a + b;
```

- A. Inserts data
- B. Returns sum
- C. Updates table
- D. Error

**Answer:** B

---

### 20. How to call function?

```
SELECT addnum(2,3);
```

- A. CALL
- B. EXEC
- C. SELECT
- D. RUN

**Answer:** C

---

### 21. Which function trims spaces?

- A. CUT()
- B. REMOVE()
- C. TRIM()
- D. DELETE()

**Answer:** C

---

## **22. Which numeric function returns absolute value?**

- A. MOD()
- B. ABS()
- C. POWER()
- D. SQRT()

**Answer:** B

---

## **23. Which function returns current date & time?**

- A. CURDATE()
- B. TIME()
- C. NOW()
- D. DATE()

**Answer:** C

---

## **24. Which built-in function replaces text?**

- A. REPLACE()
- B. CHANGE()
- C. UPDATE()
- D. MODIFY()

**Answer:** A

---

## **25. Which function returns first non-NULL value?**

- A. IFNULL()
- B. NVL()
- C. COALESCE()
- D. ISNULL()

**Answer:** C

---

## **26. Which loop uses ITERATE & LEAVE?**

- A. IF
- B. CASE
- C. LOOP
- D. SELECT

**Answer:** C

---

## **27. Which statement is TRUE?**

- A. Functions use CALL
- B. Functions return multiple values
- C. Functions can be used in SELECT
- D. Functions modify data

**Answer:** C

---

## **28. What does this do?**

`SELECT ROUND(123.456, 2);`

- A. 123
- B. 123.45
- C. 123.46
- D. Error

**Answer:** C

---

## **29. Which function returns day name?**

- A. DAY()
- B. DAYNAME()
- C. WEEKDAY()
- D. GETDAY()

**Answer:** B

---

## **30. Which function extracts part of date?**

- A. DATE()
- B. YEAR()
- C. MONTH()
- D. All

**Answer:** D

---

## HARD MCQs (31–45)

### 31. Which function definition is INVALID?

```
CREATE FUNCTION f1()
RETURNS INT
BEGIN
    SELECT COUNT(*) FROM emp ;
END ;
```

- A. Valid
- B. Invalid – missing RETURN
- C. Invalid – SELECT not allowed
- D. Invalid – syntax

**Answer:** B

---

### 32. Which function executes fastest?

- A. Stored procedure
- B. User-defined function
- C. Built-in function
- D. View

**Answer:** C

---

### 33. Which loop control prevents infinite loop?

- A. ITERATE
- B. LEAVE
- C. EXIT
- D. BREAK

**Answer:** B

---

### **34. Which function cannot modify table?**

- A. Procedure
- B. Trigger
- C. Function
- D. Event

**Answer:** C

---

### **35. Which built-in function is non-deterministic?**

- A. ABS()
- B. ROUND()
- C. NOW()
- D. LENGTH()

**Answer:** C

---

### **36. Which statement is FALSE?**

- A. Functions can be nested
- B. Functions can be used in WHERE
- C. Functions can commit transaction
- D. Functions return single value

**Answer:** C

---

### **37. Which function fails with NULL?**

- A. CONCAT()
- B. IFNULL()
- C. COALESCE()
- D. NVL()

**Answer:** A

---

### **38. Which built-in function improves portability?**

- A. NOW()
- B. CURDATE()
- C. Standard SQL functions
- D. User functions

**Answer:** C

---

**39. Which statement is TRUE?**

- A. ITERATE exits loop
- B. LEAVE skips iteration
- C. ITERATE skips iteration
- D. ITERATE ends procedure

**Answer:** C

---

**40. Which function is best for reusable calculation?**

- A. Stored procedure
- B. Trigger
- C. User-defined function
- D. Cursor

**Answer:** C

---

**41. Which statement about functions is TRUE?**

- A. Can contain transaction control
- B. Cannot contain LOOP
- C. Cannot modify data
- D. Cannot accept parameters

**Answer:** C

---

**42. Which built-in function returns difference between dates?**

- A. DATEDIFF()
- B. DATEADD()
- C. ADDDATE()
- D. SUBDATE()

**Answer:** A

---

**43. Which function handles divide-by-zero safely?**

- A. IFNULL()
- B. CASE
- C. COALESCE()
- D. All

**Answer:** B

---

#### **44. Which loop control makes logic cleaner?**

- A. Nested IF
- B. ITERATE
- C. LEAVE
- D. Both B & C

**Answer:** D

---

#### **45. Which scenario best fits user-defined function?**

- A. Bulk insert
- B. Transaction handling
- C. Reusable calculation in SELECT
- D. Data migration

**Answer:** C

## **SESSION 12 – MySQL Cursors**

(Cursor Types, Declare–Open–Fetch–Close, Real-time Use)

---

### **EASY MCQs (1–15)**

#### **1. A cursor is used to:**

- A. Execute DDL
- B. Process query result row by row
- C. Create tables
- D. Handle transactions

**Answer:** B

---

**2. Cursors are mainly used in:**

- A. Views
- B. Indexes
- C. Stored Procedures
- D. Triggers only

**Answer:** C

---

**3. Which keyword declares a cursor?**

- A. CREATE CURSOR
- B. DECLARE CURSOR
- C. DEFINE CURSOR
- D. OPEN CURSOR

**Answer:** B

---

**4. Which statement opens a cursor?**

- A. START
- B. OPEN
- C. FETCH
- D. CALL

**Answer:** B

---

**5. Which statement retrieves data from cursor?**

- A. SELECT
- B. FETCH
- C. READ
- D. GET

**Answer:** B

---

**6. Which statement releases cursor resources?**

- A. END
- B. EXIT
- C. CLOSE
- D. DROP

**Answer:** C

---

**7. MySQL cursors are:**

- A. Scrollable
- B. Dynamic
- C. Read-only
- D. Updatable

**Answer:** C

---

**8. Which cursor type does NOT reflect changes in data?**

- A. Asensitive
- B. Insensitive
- C. Dynamic
- D. Scrollable

**Answer:** B

---

**9. Cursor must be declared:**

- A. After BEGIN
- B. Before BEGIN
- C. After SELECT
- D. Before END

**Answer:** B

---

**10. Cursor works with which SQL command?**

- A. INSERT
- B. UPDATE
- C. SELECT
- D. DELETE

**Answer:** C

---

**11. Which handler is used to detect end of cursor?**

- A. EXIT handler
- B. CONTINUE handler
- C. ERROR handler
- D. FINISH handler

**Answer:** B

---

**12. Which cursor property allows forward-only movement?**

- A. Scrollable
- B. Dynamic
- C. Nonscrollable
- D. Sensitive

**Answer:** C

---

**13. Which statement is TRUE?**

- A. Cursor fetches all rows at once
- B. Cursor fetches row-by-row
- C. Cursor modifies data
- D. Cursor is mandatory

**Answer:** B

---

**14. Which clause defines cursor query?**

- A. FOR SELECT
- B. USING SELECT
- C. AS SELECT
- D. WITH SELECT

**Answer:** A

---

**15. Which keyword ends cursor loop?**

- A. END LOOP
- B. LEAVE

- C. ITERATE
- D. STOP

**Answer:** B

---

## MEDIUM MCQs (16–30)

### 16. What does this do?

```
DECLARE c1 CURSOR FOR SELECT id FROM emp;
```

- A. Executes query
- B. Declares cursor
- C. Opens cursor
- D. Fetches data

**Answer:** B

---

### 17. What does this do?

```
OPEN c1;
```

- A. Declares cursor
- B. Executes SELECT
- C. Fetches data
- D. Closes cursor

**Answer:** B

---

### 18. What does this do?

```
FETCH c1 INTO v_id;
```

- A. Inserts data
- B. Retrieves next row
- C. Closes cursor
- D. Error

**Answer:** B

---

## **19. Which handler is mandatory?**

DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;

- A. Error handling
- B. End-of-cursor handling
- C. Transaction handling
- D. Lock handling

**Answer:** B

---

## **20. Which order is correct?**

- A. OPEN → DECLARE → FETCH → CLOSE
- B. DECLARE → OPEN → FETCH → CLOSE
- C. FETCH → OPEN → CLOSE → DECLARE
- D. DECLARE → FETCH → OPEN → CLOSE

**Answer:** B

---

## **21. Which loop is commonly used with cursors?**

- A. WHILE
- B. LOOP
- C. REPEAT
- D. All

**Answer:** D

---

## **22. Which cursor type reflects data changes?**

- A. Insensitive
- B. Asensitive
- C. Read-only
- D. Nonscrollable

**Answer:** B

---

## **23. Which cursor does not allow backward movement?**

- A. Scrollable
- B. Dynamic

- C. Nonscrollable
- D. Sensitive

**Answer:** C

---

#### **24. Which cursor type is default in MySQL?**

- A. Sensitive
- B. Insensitive
- C. Dynamic
- D. Scrollable

**Answer:** B

---

#### **25. Which scenario best fits cursor?**

- A. Bulk update
- B. Aggregate calculation
- C. Row-by-row processing
- D. Simple SELECT

**Answer:** C

---

#### **26. Which variable controls cursor termination?**

- A. counter
- B. done
- C. status
- D. flag

**Answer:** B

---

#### **27. Which statement is TRUE?**

- A. Cursor improves performance
- B. Cursor replaces joins
- C. Cursor is slower than set-based SQL
- D. Cursor auto-closes

**Answer:** C

---

## **28. Which cursor type does MySQL NOT support?**

- A. Read-only
- B. Scrollable
- C. Insensitive
- D. Nonscrollable

**Answer:** B

---

## **29. Which cursor is safest?**

- A. Dynamic
- B. Sensitive
- C. Insensitive
- D. Scrollable

**Answer:** C

---

## **30. Which SQL construct is used to stop cursor loop?**

```
IF done = 1 THEN LEAVE read_loop;  
END IF;
```

- A. EXIT
- B. BREAK
- C. LEAVE
- D. STOP

**Answer:** C

---

## **HARD MCQs (31–45)**

### **31. Which cursor type sees committed changes only?**

- A. Sensitive
- B. Asensitive
- C. Insensitive
- D. Dynamic

**Answer:** B

---

### **32. Which cursor definition is valid?**

```
DECLARE cur CURSOR FOR SELECT id FROM emp;
```

- A. Valid
- B. Invalid – missing BEGIN
- C. Invalid – syntax
- D. Needs OPEN

**Answer:** A

---

### **33. Which statement is FALSE?**

- A. Cursors are forward-only
- B. Cursors are read-only
- C. Cursors are resource expensive
- D. Cursors are faster than joins

**Answer:** D

---

### **34. Which part is mandatory in cursor usage?**

- A. OPEN
- B. FETCH
- C. CLOSE
- D. All

**Answer:** D

---

### **35. Which error occurs without handler?**

- A. Syntax error
- B. Infinite loop
- C. Runtime error on FETCH
- D. Deadlock

**Answer:** C

---

### **36. Which loop is safest with cursor?**

- A. WHILE done = 0
- B. LOOP with handler

- C. REPEAT UNTIL done
- D. All

**Answer:** D

---

### **37. Which real-time use fits cursor?**

- A. Summing salaries
- B. Complex row-wise business logic
- C. Sorting data
- D. Filtering rows

**Answer:** B

---

### **38. Which cursor type reduces inconsistency?**

- A. Sensitive
- B. Dynamic
- C. Insensitive
- D. Scrollable

**Answer:** C

---

### **39. Which approach is better than cursor?**

- A. Row-by-row update
- B. Cursor-based logic
- C. Set-based SQL
- D. Loop

**Answer:** C

---

### **40. Which cursor limitation exists?**

- A. Cannot be nested
- B. Cannot be used in functions
- C. Cannot use SELECT
- D. Cannot use handlers

**Answer:** B

---

#### **41. Which statement is TRUE?**

- A. Cursor updates data directly
- B. Cursor reads snapshot
- C. Cursor auto commits
- D. Cursor supports rollback

**Answer:** B

---

#### **42. Which cursor is NOT recommended in MySQL?**

- A. Inensitive
- B. Asensitive
- C. Dynamic
- D. Read-only

**Answer:** C

---

#### **43. Which clause defines cursor query?**

- A. AS
- B. FOR
- C. USING
- D. WITH

**Answer:** B

---

#### **44. Which mistake causes infinite loop?**

- A. Missing CLOSE
- B. Missing FETCH
- C. Missing LEAVE
- D. Missing DECLARE

**Answer:** C

---

#### **45. Which statement is TRUE?**

- A. Cursor improves performance
- B. Cursor simplifies complex logic
- C. Cursor replaces JOIN
- D. Cursor is always required

**Answer:** B

## SESSION 13 – MySQL Triggers

(BEFORE / AFTER Triggers, NEW & OLD, Real-time Use)

---

### EASY MCQs (1–15)

**1. A trigger is:**

- A. A stored query
- B. A procedure executed manually
- C. A program executed automatically on table events
- D. An index

**Answer:** C

---

**2. Triggers are associated with:**

- A. Views
- B. Tables
- C. Databases
- D. Indexes

**Answer:** B

---

**3. Which events can fire a trigger?**

- A. SELECT
- B. INSERT, UPDATE, DELETE
- C. CREATE
- D. DROP

**Answer:** B

---

**4. Which trigger runs before data modification?**

- A. AFTER trigger
- B. BEFORE trigger
- C. INSTEAD trigger
- D. ROW trigger

**Answer:** B

---

### **5. Which trigger runs after data modification?**

- A. BEFORE
- B. AFTER
- C. ROW
- D. STATEMENT

**Answer:** B

---

### **6. NEW keyword refers to:**

- A. Old row data
- B. New row data
- C. Table name
- D. Column name

**Answer:** B

---

### **7. OLD keyword refers to:**

- A. New row data
- B. Modified data
- C. Previous row data
- D. Index value

**Answer:** C

---

### **8. Which trigger is used for validation?**

- A. AFTER INSERT
- B. AFTER UPDATE
- C. BEFORE INSERT
- D. AFTER DELETE

**Answer:** C

---

**9. Triggers execute:**

- A. Manually
- B. On server automatically
- C. On client
- D. On demand

**Answer:** B

---

**10. Which keyword creates trigger?**

- A. CREATE PROCEDURE
- B. CREATE EVENT
- C. CREATE TRIGGER
- D. CREATE FUNCTION

**Answer:** C

---

**11. Which statement removes trigger?**

- A. DELETE TRIGGER
- B. REMOVE TRIGGER
- C. DROP TRIGGER
- D. ALTER TRIGGER

**Answer:** C

---

**12. A trigger can be created on:**

- A. SELECT
- B. INSERT
- C. JOIN
- D. VIEW

**Answer:** B

---

**13. Triggers operate on:**

- A. Column level
- B. Row level

- C. Database level
- D. Schema level

**Answer:** B

---

#### **14. How many BEFORE triggers per table-event?**

- A. One
- B. Two
- C. Many
- D. Unlimited

**Answer:** A

---

#### **15. Which statement is TRUE?**

- A. Triggers are called using CALL
- B. Triggers return values
- C. Triggers fire automatically
- D. Triggers replace procedures

**Answer:** C

---

### **MEDIUM MCQs (16–30)**

#### **16. What does this trigger do?**

```
CREATE TRIGGER trg1
BEFORE INSERT ON emp
FOR EACH ROW
SET NEW.salary = 10000;
```

- A. Sets salary after insert
- B. Sets default salary before insert
- C. Updates existing salary
- D. Deletes row

**Answer:** B

---

#### **17. Which trigger uses OLD values?**

- A. BEFORE INSERT
- B. AFTER INSERT
- C. BEFORE DELETE
- D. BEFORE INSERT

**Answer:** C

---

### **18. Which trigger cannot access NEW?**

- A. BEFORE INSERT
- B. AFTER UPDATE
- C. BEFORE DELETE
- D. AFTER INSERT

**Answer:** C

---

### **19. Which trigger is best for auditing?**

- A. BEFORE INSERT
- B. AFTER UPDATE
- C. BEFORE DELETE
- D. BEFORE UPDATE

**Answer:** B

---

### **20. Which variable stores old column value?**

- A. NEW.col
- B. OLD.col
- C. PREV.col
- D. CUR.col

**Answer:** B

---

### **21. What does this trigger do?**

```
CREATE TRIGGER trg_del
AFTER DELETE ON emp
FOR EACH ROW
INSERT INTO emp_log VALUES (OLD.id, NOW());
```

- A. Validates delete
- B. Logs deleted rows
- C. Prevents delete
- D. Updates emp

**Answer:** B

---

## **22. Which trigger prevents invalid insert?**

- A. AFTER INSERT
- B. BEFORE INSERT
- C. AFTER UPDATE
- D. AFTER DELETE

**Answer:** B

---

## **23. Which trigger fires once per row?**

- A. Statement trigger
- B. Row trigger
- C. Database trigger
- D. Schema trigger

**Answer:** B

---

## **24. Which operation does NOT allow trigger?**

- A. INSERT
- B. UPDATE
- C. DELETE
- D. SELECT

**Answer:** D

---

## **25. Which statement is TRUE?**

- A. Triggers can use COMMIT
- B. Triggers can call procedures
- C. Triggers can return values
- D. Triggers use CALL

**Answer:** B

---

**26. Which trigger updates derived column?**

- A. AFTER INSERT
- B. BEFORE INSERT
- C. AFTER DELETE
- D. BEFORE DELETE

**Answer:** B

---

**27. Which trigger maintains referential data manually?**

- A. BEFORE INSERT
- B. AFTER INSERT
- C. BEFORE DELETE
- D. AFTER UPDATE

**Answer:** C

---

**28. Which command lists triggers?**

`SHOW TRIGGERS;`

- A. Shows procedures
- B. Shows functions
- C. Shows triggers
- D. Shows tables

**Answer:** C

---

**29. Which trigger is safest for data checks?**

- A. AFTER INSERT
- B. BEFORE INSERT
- C. AFTER DELETE
- D. AFTER UPDATE

**Answer:** B

---

**30. Which statement is FALSE?**

- A. Triggers execute automatically
- B. Triggers are row-level
- C. Triggers can be nested infinitely
- D. Triggers use NEW/OLD

**Answer:** C

---

## HARD MCQs (31–45)

### 31. Which trigger cannot modify NEW values?

- A. BEFORE INSERT
- B. BEFORE UPDATE
- C. AFTER INSERT
- D. BEFORE DELETE

**Answer:** C

---

### 32. Which trigger cannot access OLD?

- A. INSERT trigger
- B. UPDATE trigger
- C. DELETE trigger
- D. AFTER UPDATE

**Answer:** A

---

### 33. Which trigger is best for enforcing business rules?

- A. AFTER INSERT
- B. BEFORE INSERT
- C. AFTER DELETE
- D. AFTER UPDATE

**Answer:** B

---

### 34. Which statement is TRUE?

- A. Triggers improve performance
- B. Triggers can cause hidden logic
- C. Triggers are visible to users
- D. Triggers replace constraints

**Answer:** B

---

**35. Which trigger fires after data is written?**

- A. BEFORE trigger
- B. AFTER trigger
- C. ROW trigger
- D. STATEMENT trigger

**Answer:** B

---

**36. Which trigger cannot be rolled back independently?**

- A. BEFORE
- B. AFTER
- C. Both
- D. None

**Answer:** C

---

**37. Which trigger can cause recursion?**

- A. Trigger on same table update
- B. Trigger on select
- C. Trigger on view
- D. Trigger on index

**Answer:** A

---

**38. Which trigger use is NOT recommended?**

- A. Audit logging
- B. Data validation
- C. Complex business logic
- D. Maintaining derived values

**Answer:** C

---

**39. Which trigger runs per statement?**

- A. Row trigger
- B. Table trigger
- C. Statement trigger
- D. Schema trigger

**Answer:** C

---

#### **40. Which command changes delimiter for triggers?**

`DELIMITER //`

- A. Ends trigger
- B. Changes terminator
- C. Creates trigger
- D. Drops trigger

**Answer:** B

---

#### **41. Which trigger supports logging history?**

- A. BEFORE INSERT
- B. AFTER INSERT
- C. BEFORE UPDATE
- D. AFTER UPDATE

**Answer:** D

---

#### **42. Which trigger causes deadlock risk?**

- A. Read-only trigger
- B. Simple validation
- C. Trigger updating same table
- D. AFTER SELECT

**Answer:** C

---

#### **43. Which statement is FALSE?**

- A. Triggers fire automatically
- B. Triggers can modify NEW in BEFORE
- C. Triggers can use transaction control
- D. Triggers run inside transaction

**Answer:** C

---

#### **44. Which feature differentiates trigger from procedure?**

- A. Parameters
- B. Automatic execution
- C. Return values
- D. Reusability

**Answer:** B

---

#### **45. Which real-time use case suits trigger best?**

- A. Report generation
- B. Bulk data migration
- C. Audit logging
- D. Data analytics

**Answer:** C

## **SESSION 14 – MySQL Error Handling & Exceptions**

(Handlers, Exception Handling in Procedures & Functions)

---

### **EASY MCQs (1–15)**

#### **1. Error handling in MySQL is mainly used to:**

- A. Improve performance
- B. Handle runtime errors gracefully
- C. Create indexes
- D. Control transactions

**Answer:** B

---

## **2. Which keyword is used to define a handler?**

- A. CREATE HANDLER
- B. DECLARE HANDLER
- C. DEFINE HANDLER
- D. SET HANDLER

**Answer:** B

---

## **3. Error handling is mostly used inside:**

- A. Tables
- B. Views
- C. Stored Procedures / Functions
- D. Indexes

**Answer:** C

---

## **4. Which handler action continues execution?**

- A. EXIT
- B. STOP
- C. CONTINUE
- D. LEAVE

**Answer:** C

---

## **5. Which handler action exits the block?**

- A. CONTINUE
- B. EXIT
- C. ITERATE
- D. RETURN

**Answer:** B

---

## **6. Which handler is used for cursor end?**

- A. EXIT HANDLER
- B. CONTINUE HANDLER
- C. ERROR HANDLER
- D. WARNING HANDLER

**Answer:** B

---

**7. Which condition handles no rows found?**

- A. SQLEXCEPTION
- B. SQLWARNING
- C. NOT FOUND
- D. ERROR

**Answer:** C

---

**8. Which keyword signals a user-defined error?**

- A. THROW
- B. RAISE
- C. SIGNAL
- D. ERROR

**Answer:** C

---

**9. Error handling works at:**

- A. Compile time
- B. Runtime
- C. Design time
- D. Load time

**Answer:** B

---

**10. Which statement is TRUE?**

- A. Errors stop execution always
- B. Handlers prevent abrupt termination
- C. Handlers work in SELECT
- D. Handlers replace transactions

**Answer:** B

---

**11. Which handler handles any SQL error?**

- A. NOT FOUND
- B. SQLWARNING
- C. SQLEXCEPTION
- D. USERERROR

**Answer:** C

---

## **12. Which handler handles warnings?**

- A. SQLEXCEPTION
- B. SQLWARNING
- C. NOT FOUND
- D. ERROR

**Answer:** B

---

## **13. Exception handling improves:**

- A. Security
- B. Robustness
- C. Indexing
- D. Storage

**Answer:** B

---

## **14. Handlers must be declared:**

- A. Anywhere
- B. Before cursor
- C. After cursor
- D. Outside procedure

**Answer:** B

---

## **15. Which statement is FALSE?**

- A. Handlers are optional
- B. Handlers improve reliability
- C. Handlers work in procedures
- D. Handlers auto-fix errors

**Answer:** D

---

## MEDIUM MCQs (16–30)

### 16. What does this handler do?

```
DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = 1;
```

- A. Handles SQL error
- B. Handles warnings
- C. Detects cursor end
- D. Stops execution

**Answer:** C

---

### 17. What does this handler do?

```
DECLARE EXIT HANDLER FOR SQLEXCEPTION  
BEGIN  
    ROLLBACK;  
END;
```

- A. Ignores error
- B. Continues execution
- C. Rolls back and exits
- D. Commits transaction

**Answer:** C

---

### 18. Which handler continues after error?

- A. EXIT
- B. CONTINUE
- C. LEAVE
- D. RETURN

**Answer:** B

---

### 19. Which block scope is exited by EXIT handler?

- A. Loop only
- B. IF only

- C. BEGIN...END
- D. Whole database

**Answer:** C

---

## 20. Which condition catches duplicate key error?

- A. SQLWARNING
- B. NOT FOUND
- C. SQLEXCEPTION
- D. DUPLICATE

**Answer:** C

---

## 21. What does this do?

```
SIGNAL SQLSTATE '45000'  
SET MESSAGE_TEXT = 'Invalid salary';
```

- A. Inserts error
- B. Raises custom exception
- C. Logs warning
- D. Ends procedure

**Answer:** B

---

## 22. Which SQLSTATE represents user-defined error?

- A. 00000
- B. 02000
- C. 45000
- D. HY000

**Answer:** C

---

## 23. Which statement is TRUE?

- A. SIGNAL can be used outside procedure
- B. SIGNAL raises exception manually
- C. SIGNAL handles warnings
- D. SIGNAL commits transaction

**Answer:** B

---

**24. Which handler is best for logging errors?**

- A. CONTINUE
- B. EXIT
- C. SQLWARNING
- D. NOT FOUND

**Answer:** B

---

**25. Which order is correct?**

- A. Handler → Declare variable → Cursor
- B. Variable → Handler → Cursor
- C. Cursor → Handler → Variable
- D. Handler → Cursor → Variable

**Answer:** B

---

**26. Which error is thrown when SELECT finds no row?**

- A. SQLEXCEPTION
- B. SQLWARNING
- C. NOT FOUND
- D. NULL

**Answer:** C

---

**27. Which handler can be multiple in one procedure?**

- A. Only one
- B. Only EXIT
- C. Multiple handlers
- D. None

**Answer:** C

---

**28. Which handler action is safest for cursor loops?**

- A. EXIT
- B. CONTINUE
- C. SIGNAL
- D. STOP

**Answer:** B

---

### **29. Which statement is FALSE?**

- A. Handlers must be declared
- B. Handlers execute automatically
- C. Handlers can fix logic
- D. Handlers handle runtime errors

**Answer:** C

---

### **30. Which handler avoids abrupt failure?**

- A. EXIT
- B. CONTINUE
- C. SIGNAL
- D. RAISE

**Answer:** B

---

## **HARD MCQs (31–45)**

### **31. Which handler is triggered first if multiple match?**

- A. Random
- B. Last declared
- C. First declared
- D. All execute

**Answer:** C

---

### **32. Which error handling is best for transactions?**

- A. CONTINUE handler
- B. EXIT handler with ROLLBACK
- C. SIGNAL only
- D. No handler

**Answer:** B

---

**33. Which statement is TRUE?**

- A. SIGNAL auto commits
- B. SIGNAL can be caught by handler
- C. SIGNAL ignores handlers
- D. SIGNAL works only in functions

**Answer:** B

---

**34. Which handler is NOT allowed in function?**

- A. CONTINUE
- B. EXIT
- C. SIGNAL
- D. COMMIT

**Answer:** D

---

**35. Which statement is FALSE?**

- A. Functions support exception handling
- B. Procedures support exception handling
- C. Functions can COMMIT
- D. SIGNAL works in functions

**Answer:** C

---

**36. Which SQLSTATE indicates success?**

- A. 45000
- B. 02000
- C. 00000
- D. HY000

**Answer:** C

---

**37. Which error occurs without handler in cursor loop?**

- A. Syntax error
- B. Runtime NOT FOUND error
- C. Compile error
- D. Deadlock

**Answer:** B

---

### **38. Which approach improves maintainability?**

- A. Ignoring errors
- B. Hardcoded logic
- C. Centralized handlers
- D. Multiple SIGNALs

**Answer:** C

---

### **39. Which handler action stops execution immediately?**

- A. CONTINUE
- B. SIGNAL
- C. EXIT
- D. ITERATE

**Answer:** C

---

### **40. Which statement about handlers is TRUE?**

- A. Handlers run client side
- B. Handlers replace constraints
- C. Handlers run inside transaction
- D. Handlers auto commit

**Answer:** C

---

### **41. Which handler type is best for data consistency?**

- A. CONTINUE
- B. EXIT with ROLLBACK
- C. SQLWARNING
- D. NOT FOUND

**Answer:** B

---

## **42. Which error handling is best for business rules?**

- A. SQLWARNING
- B. NOT FOUND
- C. SIGNAL with custom message
- D. EXIT only

**Answer:** C

---

## **43. Which mistake causes hidden bugs?**

- A. Using handlers
- B. Overusing CONTINUE handlers
- C. Logging errors
- D. Using SIGNAL

**Answer:** B

---

## **44. Which statement is TRUE?**

- A. Handlers can be nested
- B. Handlers can be dynamically created
- C. Handlers run only once
- D. Handlers are global

**Answer:** A

---

## **45. Which real-time use suits handlers best?**

- A. UI validation
- B. Graceful transaction rollback
- C. Report generation
- D. Index creation

**Answer:** B



# **SESSION 15 – NoSQL Databases**

**(NoSQL Basics, Data Types, RDBMS vs NoSQL, CAP, BASE, Categories)**

---

## EASY MCQs (1–25)

### 1. NoSQL stands for:

- A. No Structured Query Language
- B. Not Only SQL
- C. Non Sequential Query Language
- D. New SQL

**Answer:** B

---

### 2. NoSQL databases are mainly designed for:

- A. Small data
- B. Structured data only
- C. Large-scale distributed data
- D. Single-user systems

**Answer:** C

---

### 3. Which data type has fixed schema?

- A. Semi-structured
- B. Unstructured
- C. Structured
- D. NoSQL

**Answer:** C

---

### 4. JSON data is:

- A. Structured
- B. Semi-structured
- C. Unstructured
- D. Binary

**Answer:** B

---

### 5. Which is an example of unstructured data?

- A. Table rows
- B. JSON document
- C. Image file
- D. XML

**Answer:** C

---

## **6. Which database type uses tables?**

- A. NoSQL
- B. Graph DB
- C. RDBMS
- D. Key-Value store

**Answer:** C

---

## **7. Which NoSQL category stores data as key–value pairs?**

- A. Document store
- B. Column store
- C. Key-Value store
- D. Graph store

**Answer:** C

---

## **8. Which NoSQL database stores data in documents?**

- A. Redis
- B. MongoDB
- C. Cassandra
- D. Neo4j

**Answer:** B

---

## **9. Which NoSQL database stores data in columns?**

- A. MongoDB
- B. Redis
- C. Cassandra
- D. Neo4j

**Answer:** C

---

**10. Which NoSQL database stores relationships as graphs?**

- A. MongoDB
- B. Redis
- C. Cassandra
- D. Neo4j

**Answer:** D

---

**11. NoSQL databases generally provide:**

- A. Vertical scaling
- B. Horizontal scaling
- C. No scaling
- D. Manual scaling

**Answer:** B

---

**12. Which data type is schema-less?**

- A. Structured
- B. Semi-structured
- C. Unstructured
- D. All

**Answer:** B

---

**13. Which feature is common in NoSQL?**

- A. Fixed schema
- B. Joins
- C. High scalability
- D. Complex transactions

**Answer:** C

---

**14. RDBMS ensures:**

- A. BASE
- B. CAP

- C. ACID
- D. Eventual consistency

**Answer:** C

---

**15. NoSQL generally follows:**

- A. ACID
- B. BASE
- C. SQL
- D. Normalization

**Answer:** B

---

**16. Which model supports eventual consistency?**

- A. ACID
- B. BASE
- C. CAP
- D. SQL

**Answer:** B

---

**17. Which data is stored in XML?**

- A. Structured
- B. Semi-structured
- C. Unstructured
- D. Binary

**Answer:** B

---

**18. Which is NOT a NoSQL category?**

- A. Key-Value
- B. Document
- C. Relational
- D. Graph

**Answer:** C

---

## **19. Which NoSQL DB is fastest for caching?**

- A. MongoDB
- B. Redis
- C. Cassandra
- D. Neo4j

**Answer:** B

---

## **20. Which NoSQL database is best for social networks?**

- A. Key-Value
- B. Document
- C. Column-oriented
- D. Graph

**Answer:** D

---

## **21. NoSQL databases avoid:**

- A. Scalability
- B. Distribution
- C. Joins
- D. Replication

**Answer:** C

---

## **22. Which system prefers consistency over availability?**

- A. CP system
- B. AP system
- C. CA system
- D. BASE system

**Answer:** A

---

## **23. Which is true about NoSQL?**

- A. Always consistent
- B. Schema rigid
- C. Flexible schema
- D. No replication

**Answer:** C

---

## **24. Which data type grows rapidly?**

- A. Structured
- B. Semi-structured
- C. Unstructured
- D. All

**Answer:** D

---

## **25. Which statement is TRUE?**

- A. NoSQL replaces RDBMS completely
- B. NoSQL supports horizontal scaling
- C. NoSQL supports complex joins
- D. NoSQL enforces strict schema

**Answer:** B

---

## **MEDIUM MCQs (26–50)**

### **26. Which NoSQL category is best for hierarchical data?**

- A. Key-Value
- B. Document store
- C. Column store
- D. Graph store

**Answer:** B

---

### **27. Which RDBMS feature is weak in NoSQL?**

- A. Scalability
- B. Availability
- C. Transactions
- D. Distribution

**Answer:** C

---

## **28. Which CAP property ensures system is always responsive?**

- A. Consistency
- B. Availability
- C. Partition tolerance
- D. Durability

**Answer:** B

---

## **29. Which CAP property handles network failure?**

- A. Consistency
- B. Availability
- C. Partition tolerance
- D. Atomicity

**Answer:** C

---

## **30. CAP theorem states that a system can guarantee:**

- A. All three
- B. Only one
- C. Only two
- D. None

**Answer:** C

---

## **31. BASE stands for:**

- A. Basically Available, Soft state, Eventually consistent
- B. Basic Atomic System Engine
- C. Backup and Storage Engine
- D. Binary Access System Engine

**Answer:** A

---

## **32. Which system sacrifices consistency?**

- A. CP
- B. AP
- C. CA
- D. ACID

**Answer: B**

---

**33. Which NoSQL DB is best for time-series data?**

- A. MongoDB
- B. Redis
- C. Cassandra
- D. Neo4j

**Answer: C**

---

**34. Which data model supports denormalization?**

- A. RDBMS
- B. NoSQL
- C. Both
- D. None

**Answer: B**

---

**35. Which NoSQL store is best for fast lookup?**

- A. Document
- B. Graph
- C. Column
- D. Key-Value

**Answer: D**

---

**36. Which RDBMS concept is rarely used in NoSQL?**

- A. Indexing
- B. Normalization
- C. Replication
- D. Sharding

**Answer: B**

---

**37. Which NoSQL database uses BSON?**

- A. Redis
- B. MongoDB
- C. Cassandra
- D. Neo4j

**Answer:** B

---

### **38. Which CAP combination is most common in NoSQL?**

- A. CA
- B. CP
- C. AP
- D. AC

**Answer:** C

---

### **39. Which system prioritizes consistency and partition tolerance?**

- A. CP
- B. AP
- C. CA
- D. BASE

**Answer:** A

---

### **40. Which is a disadvantage of NoSQL?**

- A. High availability
- B. Scalability
- C. Lack of standard query language
- D. Schema flexibility

**Answer:** C

---

### **41. Which NoSQL type is best for recommendation engines?**

- A. Document
- B. Key-Value
- C. Graph
- D. Column

**Answer:** C

---

**42. Which data storage is ideal for IoT data?**

- A. Graph
- B. Column-oriented
- C. Key-Value
- D. RDBMS

**Answer:** B

---

**43. Which NoSQL database uses eventual consistency?**

- A. Oracle
- B. MySQL
- C. Cassandra
- D. PostgreSQL

**Answer:** C

---

**44. Which SQL feature is missing in NoSQL?**

- A. CRUD
- B. Index
- C. Join
- D. Query

**Answer:** C

---

**45. Which system ensures low latency?**

- A. CP
- B. AP
- C. CA
- D. ACID

**Answer:** B

---

**46. Which data type is best for logs?**

- A. Structured
- B. Semi-structured

- C. Unstructured
- D. All

**Answer:** B

---

#### **47. Which NoSQL database is memory-based?**

- A. Cassandra
- B. MongoDB
- C. Redis
- D. Neo4j

**Answer:** C

---

#### **48. Which feature supports fault tolerance?**

- A. Normalization
- B. Replication
- C. Joins
- D. Constraints

**Answer:** B

---

#### **49. Which NoSQL DB is best for analytics?**

- A. Key-Value
- B. Column-oriented
- C. Graph
- D. Document

**Answer:** B

---

#### **50. Which statement is TRUE?**

- A. NoSQL avoids transactions always
- B. NoSQL supports sharding
- C. NoSQL is slower than RDBMS
- D. NoSQL is single-node only

**Answer:** B

---

## HARD MCQs (51–75)

**51. Which CAP property is impossible to avoid in distributed systems?**

- A. Consistency
- B. Availability
- C. Partition tolerance
- D. Durability

**Answer:** C

---

**52. Which trade-off is made by AP systems?**

- A. Lose availability
- B. Lose consistency
- C. Lose partition tolerance
- D. Lose durability

**Answer:** B

---

**53. Which NoSQL database is best for fraud detection?**

- A. Key-Value
- B. Column
- C. Graph
- D. Document

**Answer:** C

---

**54. Which model relaxes strict consistency?**

- A. ACID
- B. BASE
- C. CAP
- D. SQL

**Answer:** B

---

**55. Which NoSQL DB supports wide-column storage?**

- A. MongoDB
- B. Redis

- A. Cassandra
- B. MySQL
- C. Neo4j

**Answer:** C

---

### **56. Which system ensures strict consistency?**

- A. CP
- B. AP
- C. BASE
- D. NoSQL

**Answer:** A

---

### **57. Which NoSQL DB best fits event logging?**

- A. Graph
- B. Column store
- C. Key-Value
- D. RDBMS

**Answer:** B

---

### **58. Which disadvantage exists in graph databases?**

- A. Poor relationship handling
- B. Expensive traversal for deep graphs
- C. Complex joins
- D. No schema

**Answer:** B

---

### **59. Which NoSQL DB is best for content management systems?**

- A. Document store
- B. Key-Value
- C. Graph
- D. Column

**Answer:** A

---

## **60. Which feature enables horizontal scaling?**

- A. Normalization
- B. Sharding
- C. Constraints
- D. ACID

**Answer:** B

---

## **61. Which data consistency is acceptable in NoSQL?**

- A. Strong
- B. Immediate
- C. Eventual
- D. Atomic

**Answer:** C

---

## **62. Which NoSQL DB supports flexible document structure?**

- A. Redis
- B. Cassandra
- C. MongoDB
- D. Neo4j

**Answer:** C

---

## **63. Which CAP combination is NOT practical?**

- A. CP
- B. AP
- C. CA
- D. BASE

**Answer:** C

---

## **64. Which system design suits microservices?**

- A. Single RDBMS
- B. NoSQL databases
- C. Flat files
- D. CSV files

**Answer:** B

---

**65. Which NoSQL DB is optimized for write-heavy loads?**

- A. MongoDB
- B. Cassandra
- C. Redis
- D. Neo4j

**Answer:** B

---

**66. Which storage avoids joins by embedding data?**

- A. RDBMS
- B. Document store
- C. Graph store
- D. Column store

**Answer:** B

---

**67. Which feature is hardest in NoSQL?**

- A. Scalability
- B. High availability
- C. Strong consistency
- D. Replication

**Answer:** C

---

**68. Which NoSQL DB supports tunable consistency?**

- A. MongoDB
- B. Cassandra
- C. Redis
- D. Neo4j

**Answer:** B

---

**69. Which database is best for recommendation engines?**

- A. Document
- B. Graph
- C. Column
- D. Key-Value

**Answer:** B

---

## **70. Which scenario suits RDBMS over NoSQL?**

- A. Big data
- B. Flexible schema
- C. Complex transactions
- D. Horizontal scaling

**Answer:** C

---

## **71. Which NoSQL DB sacrifices joins for speed?**

- A. RDBMS
- B. Document store
- C. Graph store
- D. Column store

**Answer:** B

---

## **72. Which NoSQL DB is NOT ideal for multi-row transactions?**

- A. MongoDB
- B. Cassandra
- C. Redis
- D. All

**Answer:** D

---

## **73. Which NoSQL category is best for caching sessions?**

- A. Graph
- B. Column
- C. Key-Value
- D. Document

**Answer:** C

---

#### **74. Which data type dominates big data?**

- A. Structured
- B. Semi-structured
- C. Unstructured
- D. Numeric

**Answer:** C

---

#### **75. Which statement is TRUE?**

- A. CAP and ACID contradict fully
- B. NoSQL ignores consistency completely
- C. NoSQL chooses trade-offs
- D. RDBMS is obsolete

**Answer:** C

---

## **SESSIONS 16–18 – MongoDB (Full Coverage)**

---

### **EASY MCQs (1–30)**

#### **1. MongoDB is a:**

- A. Relational DB
- B. NoSQL DB
- C. Hierarchical DB
- D. File system

**Answer:** B

---

#### **2. MongoDB stores data as:**

- A. Rows
- B. Tables
- C. Documents
- D. Files

**Answer:** C

---

**3. MongoDB documents are stored in:**

- A. Tables
- B. Schemas
- C. Collections
- D. Indexes

**Answer:** C

---

**4. MongoDB uses which data format?**

- A. XML
- B. JSON
- C. BSON
- D. CSV

**Answer:** C

---

**5. BSON stands for:**

- A. Binary SQL Object Notation
- B. Binary JSON
- C. Basic Structured Object
- D. Binary Storage Object

**Answer:** B

---

**6. Which command shows databases?**

`show dbs`

- A. Creates DB
- B. Deletes DB
- C. Displays databases
- D. Selects DB

**Answer:** C

---

## 7. Which command selects database?

`use mydb`

- A. Creates collection
- B. Selects database
- C. Deletes database
- D. Drops DB

**Answer:** B

---

## 8. Which MongoDB command inserts document?

- A. insertRow()
- B. add()
- C. insertOne()
- D. create()

**Answer:** C

---

## 9. MongoDB `_id` field is:

- A. Optional
- B. Mandatory
- C. Nullable
- D. Duplicate

**Answer:** B

---

## 10. MongoDB Compass is:

- A. CLI tool
- B. GUI tool
- C. Server
- D. Driver

**Answer:** B

---

## 11. Which command creates collection?

`db.createCollection("emp")`

- A. Creates DB
- B. Creates document
- C. Creates collection
- D. Creates index

**Answer:** C

---

## **12. MongoDB follows schema:**

- A. Fixed
- B. Dynamic
- C. Rigid
- D. Static

**Answer:** B

---

## **13. Which CRUD operation reads data?**

- A. INSERT
- B. FIND
- C. UPDATE
- D. DELETE

**Answer:** B

---

## **14. Which command fetches all documents?**

`db.emp.find()`

- A. Inserts
- B. Deletes
- C. Reads
- D. Updates

**Answer:** C

---

## **15. MongoDB default port is:**

- A. 3306
- B. 1521
- C. 27017
- D. 5432

**Answer:** C

---

**16. MongoDB supports:**

- A. Joins only
- B. Embedded documents
- C. Fixed schema
- D. Foreign keys

**Answer:** B

---

**17. Which operator checks equality?**

- A. \$eq
- B. \$ne
- C. \$gt
- D. \$in

**Answer:** A

---

**18. Which command deletes document?**

```
db.emp.deleteOne({id:1})
```

- A. Read
- B. Update
- C. Delete
- D. Insert

**Answer:** C

---

**19. Which MongoDB operation sorts data?**

- A. order()
- B. sort()
- C. arrange()
- D. group()

**Answer:** B

---

## **20. MongoDB indexes improve:**

- A. Insert speed
- B. Delete speed
- C. Query performance
- D. Storage

**Answer:** C

---

## **21. Which data type stores array?**

- A. Object
- B. Array
- C. String
- D. Binary

**Answer:** B

---

## **22. MongoDB is best for:**

- A. Complex joins
- B. Big data
- C. Strict ACID
- D. Fixed schema

**Answer:** B

---

## **23. Which command drops collection?**

`db.emp.drop()`

- A. Drops DB
- B. Drops index
- C. Drops collection
- D. Drops document

**Answer:** C

---

## **24. MongoDB supports horizontal scaling using:**

- A. Indexing
- B. Replication

- C. Sharding
- D. Joins

**Answer:** C

---

## **25. Which CRUD operation modifies data?**

- A. FIND
- B. INSERT
- C. UPDATE
- D. READ

**Answer:** C

---

## **26. MongoDB allows:**

- A. Only structured data
- B. Only unstructured data
- C. Mixed data
- D. Tabular data

**Answer:** C

---

## **27. Which tool connects MongoDB visually?**

- A. MySQL Workbench
- B. Mongo Shell
- C. MongoDB Compass
- D. Robo3T

**Answer:** C

---

## **28. Which statement is TRUE?**

- A. MongoDB uses SQL
- B. MongoDB supports JSON-like docs
- C. MongoDB enforces joins
- D. MongoDB uses tables

**Answer:** B

---

## 29. Which field is auto-generated?

- A. name
- B. id
- C. \_id
- D. key

**Answer:** C

---

## 30. Which command exits shell?

- A. quit
- B. exit
- C. close
- D. stop

**Answer:** B

---

## MEDIUM MCQs (31–70)

### 31. What does this do?

```
db.emp.insertOne({name:"Amit", age:25})
```

- A. Inserts one document
- B. Inserts many
- C. Updates doc
- D. Deletes doc

**Answer:** A

---

### 32. What does this do?

```
db.emp.find({age:{$gt:30}})
```

- A. Age = 30
- B. Age > 30
- C. Age < 30
- D. All ages

**Answer:** B

---

### **33. Which operator means greater than?**

- A. \$lt
- B. \$gte
- C. \$gt
- D. \$eq

**Answer:** C

---

### **34. Which operator checks list?**

- A. \$eq
- B. \$in
- C. \$all
- D. \$and

**Answer:** B

---

### **35. What does this do?**

```
db.emp.updateOne({id:1}, {$set:{salary:50000}})
```

- A. Inserts
- B. Updates
- C. Deletes
- D. Finds

**Answer:** B

---

### **36. Which operator increments value?**

- A. \$add
- B. \$inc
- C. \$sum
- D. \$set

**Answer:** B

---

### **37. What does UPSERT mean?**

- A. Update only
- B. Insert only

- C. Update or Insert
- D. Delete

**Answer:** C

---

### 38. UPSERT example:

```
db.emp.updateOne({id:1}, {$set:{name:"Raj"}}, {upsert:true})
```

Result?

- A. Error
- B. Always insert
- C. Update if exists else insert
- D. Delete

**Answer:** C

---

### 39. Which operator performs AND?

- A. \$or
- B. \$not
- C. \$and
- D. \$eq

**Answer:** C

---

### 40. What does this do?

```
db.emp.find().sort({salary:-1})
```

- A. Ascending
- B. Descending
- C. Random
- D. Grouped

**Answer:** B

---

### 41. Which index is default?

- A. salary
- B. name

- C. \_id
- D. age

**Answer:** C

---

#### 42. Create index syntax:

`db.emp.createIndex({name:1})`

- A. Create descending
- B. Create ascending
- C. Drop index
- D. Error

**Answer:** B

---

#### 43. Which operator checks existence?

- A. \$exists
- B. \$has
- C. \$present
- D. \$find

**Answer:** A

---

#### 44. What does this do?

`db.emp.find({dept:{$exists:true}})`

- A. dept null
- B. dept exists
- C. dept missing
- D. Error

**Answer:** B

---

#### 45. Which operator matches pattern?

- A. \$regex
- B. \$like
- C. \$pattern
- D. \$match

**Answer:** A

---

**46. MongoDB sorting happens:**

- A. Before filter
- B. After filter
- C. Random
- D. Before insert

**Answer:** B

---

**47. Which operator matches OR?**

- A. \$and
- B. \$or
- C. \$nor
- D. \$eq

**Answer:** B

---

**48. What does this do?**

```
db.emp.find({age:{$in:[25,30]}})
```

- A. Age between
- B. Age equals 25 or 30
- C. Age > 25
- D. Error

**Answer:** B

---

**49. Which operator checks NOT?**

- A. \$ne
- B. \$not
- C. \$nin
- D. All

**Answer:** D

---

## **50. Which CRUD operation returns cursor?**

- A. insert
- B. find
- C. update
- D. delete

**Answer:** B

---

## **51. Which command limits output?**

```
db.emp.find().limit(5)
```

- A. Skips 5
- B. Shows 5
- C. Deletes 5
- D. Updates 5

**Answer:** B

---

## **52. Which command skips records?**

```
db.emp.find().skip(5)
```

- A. Limits
- B. Skips first 5
- C. Deletes
- D. Sorts

**Answer:** B

---

## **53. Which MongoDB feature replaces joins?**

- A. Index
- B. Embedded documents
- C. Sharding
- D. Replication

**Answer:** B

---

## **54. Which query updates many?**

```
db.emp.updateMany( {}, { $set: { active: true } })
```

- A. One
- B. Many
- C. None
- D. Error

**Answer:** B

---

### 55. Which operator removes field?

- A. \$delete
- B. \$unset
- C. \$remove
- D. \$drop

**Answer:** B

---

### 56. What does this do?

```
db.emp.updateOne( { id: 1 }, { $unset: { temp: 1 } })
```

- A. Deletes doc
- B. Removes field
- C. Updates field
- D. Error

**Answer:** B

---

### 57. Which MongoDB feature ensures availability?

- A. Index
- B. Sharding
- C. Replication
- D. Sorting

**Answer:** C

---

### 58. Which command shows collections?

```
show collections
```

- A. Shows DBs
- B. Shows tables
- C. Shows collections
- D. Shows indexes

**Answer:** C

---

### **59. Which is true?**

- A. MongoDB supports joins heavily
- B. MongoDB uses fixed schema
- C. MongoDB supports aggregation
- D. MongoDB uses SQL

**Answer:** C

---

### **60. Which operator checks less than?**

- A. \$lte
- B. \$lt
- C. \$gt
- D. \$eq

**Answer:** B

---

### **61. MongoDB Compass helps in:**

- A. Writing Java
- B. Visual CRUD
- C. Running SQL
- D. Managing users only

**Answer:** B

---

### **62. Which method deletes many?**

`db.emp.deleteMany({dept:"IT"})`

- A. Deletes one
- B. Deletes many
- C. Updates
- D. Error

**Answer:** B

---

**63. Which index improves range queries?**

- A. Text
- B. Hash
- C. B-Tree
- D. Compound

**Answer:** C

---

**64. Which MongoDB operation is atomic?**

- A. Multi-doc update
- B. Single document update
- C. Collection update
- D. Database update

**Answer:** B

---

**65. Which operator combines conditions?**

- A. \$and
- B. \$or
- C. \$nor
- D. All

**Answer:** D

---

**66. Which is true for BSON?**

- A. Human readable
- B. Binary format
- C. No indexing
- D. Large only

**Answer:** B

---

**67. MongoDB aggregation replaces:**

- A. Triggers
- B. Joins partially
- C. Indexes
- D. CRUD

**Answer:** B

---

### **68. Which operator matches NOT IN?**

- A. \$nin
- B. \$not
- C. \$ne
- D. \$all

**Answer:** A

---

### **69. MongoDB uses which language?**

- A. SQL
- B. MQL
- C. PL/SQL
- D. GraphQL

**Answer:** B

---

### **70. Which feature allows scale-out?**

- A. Index
- B. Sharding
- C. CRUD
- D. Schema

**Answer:** B

---

## **HARD MCQs (71–100)**

### **71. Which MongoDB operation is fastest?**

- A. Aggregation
- B. Indexed find
- C. Unindexed find
- D. UpdateMany

**Answer:** B

---

**72. Which is NOT true?**

- A. MongoDB supports transactions
- B. MongoDB supports joins
- C. MongoDB supports indexing
- D. MongoDB supports replication

**Answer:** B

---

**73. Which index slows insert?**

- A. No index
- B. Multiple indexes
- C. Primary index
- D. None

**Answer:** B

---

**74. Which operation causes collection scan?**

- A. Indexed find
- B. Unindexed find
- C. Sharded query
- D. Sorted query

**Answer:** B

---

**75. Which operator is costly?**

- A. \$eq
- B. \$regex without index
- C. \$in
- D. \$gt

**Answer:** B

---

**76. Which query is invalid?**

`db.emp.find({age:>25})`

- A. Valid
- B. Invalid syntax
- C. Update
- D. Insert

**Answer:** B

---

### **77. Which feature avoids joins?**

- A. Normalization
- B. Embedding
- C. Foreign keys
- D. Constraints

**Answer:** B

---

### **78. Which index supports text search?**

- A. B-tree
- B. Hash
- C. Text
- D. Geo

**Answer:** C

---

### **79. Which MongoDB feature handles failure?**

- A. Index
- B. Replication
- C. Sorting
- D. CRUD

**Answer:** B

---

### **80. Which update is safest?**

- A. updateMany
- B. updateOne with filter
- C. update without filter
- D. drop

**Answer:** B

---

**81. Which operation supports transaction?**

- A. Single doc
- B. Multi-doc (replica set)
- C. Index create
- D. Drop DB

**Answer:** B

---

**82. Which index improves compound query?**

- A. Single
- B. Text
- C. Compound
- D. Hash

**Answer:** C

---

**83. Which MongoDB feature ensures CAP AP?**

- A. Strong consistency
- B. Availability + Partition tolerance
- C. ACID
- D. Joins

**Answer:** B

---

**84. Which MongoDB update replaces document?**

- A. \$set
- B. replaceOne
- C. \$inc
- D. \$unset

**Answer:** B

---

**85. Which query avoids full scan?**

- A. Indexed filter
- B. Regex
- C. \$where
- D. \$expr

**Answer:** A

---

### **86. Which operator is deprecated?**

- A. \$where
- B. \$regex
- C. \$and
- D. \$or

**Answer:** A

---

### **87. Which operation is most expensive?**

- A. Find by \_id
- B. Unindexed aggregation
- C. Simple insert
- D. DeleteOne

**Answer:** B

---

### **88. Which MongoDB feature supports analytics?**

- A. CRUD
- B. Aggregation pipeline
- C. Index only
- D. Sharding

**Answer:** B

---

### **89. Which MongoDB query is safest?**

```
db.emp.updateOne({_id:ObjectId(...)}, {$set:{x:1}})
```

- A. Safe
- B. Unsafe
- C. Deletes
- D. Drops

**Answer:** A

---

**90. Which feature is NOT in MongoDB?**

- A. Foreign key
- B. Sharding
- C. Index
- D. Aggregation

**Answer:** A

---

**91. Which MongoDB operation is atomic by default?**

- A. Collection update
- B. Database update
- C. Document update
- D. Index update

**Answer:** C

---

**92. Which MongoDB operator executes JS?**

- A. \$js
- B. \$script
- C. \$where
- D. \$expr

**Answer:** C

---

**93. Which is NOT recommended?**

- A. Embedding small docs
- B. Indexing frequently queried fields
- C. Regex without index
- D. Compound index

**Answer:** C

---

**94. Which MongoDB query is fastest?**

- A. find() without filter
- B. find({\_id})
- C. aggregation
- D. regex

**Answer:** B

---

## **95. Which MongoDB feature supports eventual consistency?**

- A. ACID
- B. CAP AP
- C. SQL
- D. Triggers

**Answer:** B

---

## **96. Which MongoDB operation is idempotent?**

- A. insertOne
- B. deleteOne
- C. update with \$set same value
- D. drop

**Answer:** C

---

## **97. Which MongoDB operation needs index most?**

- A. Insert
- B. Update
- C. Find
- D. Drop

**Answer:** C

---

## **98. Which MongoDB query uses cursor chaining?**

`db.emp.find().sort().limit()`

- A. Yes
- B. No
- C. Error
- D. Partial

**Answer: A**

---

**99. Which MongoDB feature best suits microservices?**

- A. Fixed schema
- B. Flexible schema
- C. Foreign keys
- D. Joins

**Answer: B**

---

**100. Which statement is TRUE?**

- A. MongoDB replaces RDBMS fully
- B. MongoDB uses MQL
- C. MongoDB enforces schema
- D. MongoDB does not scale

**Answer: B**