

MULTIPLE CHOICE QUESTIONS

Database Management System (SET-1)

1. What is data abstraction?
 - A. The process of representing data in a specific format
 - B. The process of hiding the implementation details of data
 - C. The process of storing data in a database
 - D. The process of deleting data from a system
2. What is data independence?
 - A. The ability to change the data without changing the applications that use the data
 - B. The ability to change the applications without changing the data
 - C. The ability to store the data in a specific format
 - D. The ability to access the data from a remote location
3. What are the two types of data independence?
 - A. Physical and logical
 - B. Static and dynamic
 - C. Internal and external
 - D. Primary and secondary
4. What is physical data independence?
 - A. The ability to change the logical structure of the data without affecting the programs that use the data
 - B. The ability to change the physical storage of the data without affecting the programs that use the data
 - C. The ability to access the data from a remote location
5. What is logical data independence?
 - A. The ability to change the physical storage of the data without affecting the programs that use the data
 - B. The ability to change the logical structure of the data without affecting the programs that use the data
 - C. The ability to access the data from a remote location
 - D. The ability to change the data without affecting the applications that use the data
6. What is a schema in a database?
 - A. A set of rules that defines the structure and constraints of a database
 - B. A subset of the data in a database
 - C. A representation of a specific instance of data in a database
 - D. A type of query used to retrieve data from a database
7. What is an instance in a database?
 - A. A set of rules that defines the structure and constraints of a database
 - B. A subset of the data in a database
 - C. A representation of a specific instance of data in a database
 - D. A type of query used to retrieve data from a database
8. What is the difference between a schema and an instance in a database?
 - A. A schema defines the structure and constraints of a database, while an instance represents a specific set of data in the database.
 - B. A schema represents a specific set of data in the database, while an instance defines the structure and constraints of the database.
 - C. A schema and an instance are the same thing in a database.
 - D. A schema and an instance are both used to query data from a database.
9. What is a primary key in a database?
 - A. A key used to encrypt sensitive data in a database
 - B. A key used to define the structure of a database
 - C. A key used to uniquely identify a record in a table
 - D. A key used to join two tables in a database
10. What is a foreign key in a database?
 - A. A key used to encrypt sensitive data in a database
 - B. A key used to define the structure of a database
 - C. A key used to uniquely identify a record in a table
 - D. A key used to join two tables in a database
11. What is the E-R model used for?
 - A. To represent the structure of a database
 - B. To write SQL queries
 - C. To manage database transactions
 - D. To create tables in a database
12. What is a strong entity set?
 - A. An entity set that has a primary key
 - B. An entity set that has a foreign key
 - C. An entity set that is not related to any other entity set
 - D. An entity set that has no attributes
13. What is a weak entity set?
 - A. An entity set that has a primary key
 - B. An entity set that has a foreign key
 - C. An entity set that is not related to any other entity set
 - D. An entity set that depends on another entity set for its existence
14. What are attributes in an E-R model?
 - A. Properties or characteristics of an entity set
 - B. Keys used to identify an entity set
 - C. Relationships between entity sets
 - D. Foreign keys used to link entity sets
15. What is a key in an E-R model?
 - A. A property or characteristic of an entity set
 - B. A foreign key used to link entity sets
 - C. A primary key used to uniquely identify an entity set
 - D. A relationship between entity sets
16. What is an E-R diagram?
 - A. A diagram used to represent the physical structure of a database
 - B. A diagram used to represent the logical structure of a database
 - C. A diagram used to represent the relationship between tables in a database
 - D. A diagram used to represent the queries used to retrieve data from a database

17. What is an entity in an E-R diagram?
 A. A physical object in a database
 B. A logical object in a database
 C. A table in a database
 D. A field in a database
18. What is a relationship in an E-R diagram?
 A. A physical connection between tables in a database
 B. A logical connection between tables in a database
 C. A field in a database
 D. A primary key in a database
19. What is a cardinality constraint in an E-R diagram?
 A. A constraint used to limit the number of records in a table
 B. A constraint used to limit the number of fields in a table
 C. A constraint used to limit the number of relationships between tables
 D. A constraint used to limit the number of entities in a relationship
20. What is a subtype in an E-R diagram?
 A. A type of entity that inherits attributes from another entity
 B. A type of relationship between entities
 C. A type of constraint used to limit the number of records in a table
 D. A type of primary key used to identify an entity
21. What is the main characteristic of a relation in First Normal Form (1NF)?
 A. No repeating groups
 B. No partial dependencies
 C. No transitive dependencies
 D. No redundant data
22. In Second Normal Form (2NF), a relation must be in First Normal Form (1NF) and:
 A. Have no partial dependencies
 B. Have no transitive dependencies
 C. Have no redundant data
 D. Have no repeating groups
23. What is the main difference between Third Normal Form (3NF) and Boyce-Codd Normal Form (BCNF)?
 A. Third Normal Form (3NF) requires a relation to be in Second Normal Form (2NF)
 B. Second Normal Form (2NF) requires a relation to have no transitive dependencies, while Third Normal Form (3NF) requires a relation to have no partial dependencies
 C. Third Normal Form (3NF) requires a relation to have no transitive dependencies, while Second Normal Form (2NF) requires a relation to have no partial dependencies
 D. Third Normal Form (3NF) requires a relation to have no redundant data, while Second Normal Form (2NF) requires a relation to have no repeating groups
24. What is the main characteristic of a relation in Boyce-Codd Normal Form (BCNF)?
 A. No redundant data
 B. No partial dependencies
 C. No transitive dependencies
 D. No dependencies on candidate keys other than the primary key
25. Which normal form is the highest normal form that guarantees that a relation is free of all types of data anomalies?
 A. First Normal Form (1NF)
 B. Second Normal Form (2NF)
 C. Third Normal Form (3NF)
 D. Boyce-Codd Normal Form (BCNF)
26. Which normal form is sufficient to eliminate all repeating groups and partial dependencies?
 A. First Normal Form (1NF)
 B. Second Normal Form (2NF)
 C. Third Normal Form (3NF)
 D. Boyce-Codd Normal Form (BCNF)
27. Which normal form is sufficient to eliminate all transitive dependencies?
 A. First Normal Form (1NF)
 B. Second Normal Form (2NF)
 C. Third Normal Form (3NF)
 D. Boyce-Codd Normal Form (BCNF)
28. In which normal form are all attributes atomic?
 A. First Normal Form (1NF)
 B. Second Normal Form (2NF)
 C. Third Normal Form (3NF)
 D. Boyce-Codd Normal Form (BCNF)
29. Which normal form is the most commonly used in practice?
 A. First Normal Form (1NF)
 B. Second Normal Form (2NF)
 C. Third Normal Form (3NF)
 D. Boyce-Codd Normal Form (BCNF)
30. Which normal form is most appropriate for a database that is heavily updated and requires maximum performance?
 A. First Normal Form (1NF)
 B. Second Normal Form (2NF)
 C. Third Normal Form (3NF)
 D. Boyce-Codd Normal Form (BCNF)
31. Which of the following SQL commands is used to insert new data into an existing table?
 A. SELECT B. UPDATE
 C. DELETE D. INSERT
32. Which of the following SQL commands is used to retrieve data from a database?
 A. SELECT B. UPDATE
 C. DELETE D. INSERT
33. Which of the following SQL commands is used to modify existing data in a database?
 A. SELECT B. UPDATE
 C. DELETE D. INSERT
34. Which of the following SQL commands is used to delete data from a database?
 A. SELECT B. UPDATE
 C. DELETE D. INSERT
35. Which of the following SQL commands is used to create a new database?
 A. CREATE DATABASE
 B. DROP DATABASE
 C. ALTER DATABASE
 D. SELECT DATABASE
36. Which of the following SQL commands is used to delete an existing database?
 A. CREATE DATABASE
 B. DROP DATABASE
 C. ALTER DATABASE
 D. SELECT DATABASE
37. Which of the following SQL commands is used to alter the structure of an existing database?
 A. CREATE DATABASE
 B. DROP DATABASE
 C. ALTER DATABASE
 D. SELECT DATABASE

38. Which of the following SQL commands is used to add a new column to a table?
- ALTER TABLE ADD
 - ALTER TABLE MODIFY
 - ALTER TABLE DROP
 - ALTER TABLE CHANGE
39. Which of the following SQL commands is used to modify an existing column in a table?
- ALTER TABLE ADD
 - ALTER TABLE MODIFY
 - ALTER TABLE DROP
 - ALTER TABLE CHANGE
40. Which of the following SQL commands is used to delete a column from a table?
- ALTER TABLE ADD
 - ALTER TABLE MODIFY
 - ALTER TABLE DROP
 - ALTER TABLE CHANGE
41. Which of the following SQL commands is used to rename a column in a table?
- ALTER TABLE ADD
 - ALTER TABLE MODIFY
 - ALTER TABLE DROP
 - ALTER TABLE CHANGE
42. Which of the following SQL commands is used to create a new table with the same structure as an existing table?
- CREATE TABLE LIKE
 - CREATE TABLE AS
 - CREATE TABLE NEW
 - CREATE TABLE COPY
43. What is a database management system (DBMS)?
- A software system used to manage and store data
 - A hardware system used to manage and store data
 - A programming language used to manage and store data
 - A system used to manage and store text files
44. What is a relational management system (RDBMS)?
- A database management system that uses a relational model
 - A database management system that uses a hierarchical model
 - A database management system that uses a network model
 - A database management system that uses a flat file model
45. What is a data model?
- A representation of data and its relationships
 - A tool used to manage and store data
 - A programming language used to manage and store data
 - A system used to manage and store text files
46. What is a data dictionary?
- A collection of information about data stored in a database
 - A tool used to manage and store data
 - A programming language used to manage and store data
 - A system used to manage and store text files
47. What is normalization in database management systems?
- The process of organizing data into separate tables
 - The process of merging data into a single table
 - The process of encrypting data
 - The process of compressing data
48. What is a primary key in a database management system?
- A unique identifier for each record in a table
 - A value used to link tables together
 - A value used to encrypt data
 - A value used to compress data
49. What is a foreign key in a database management system?
- A unique identifier for each record in a table
 - A value used to link tables together
 - A value used to encrypt data
 - A value used to compress data
50. What is a join in a database management system?
- A method used to combine data from two or more tables
 - A method used to separate data into separate tables
 - A method used to encrypt data
 - A method used to compress data
51. What is a view in a database management system?
- A virtual table based on the result of a SELECT statement
 - A physical table stored on disk
 - A method used to encrypt data
 - A method used to compress data
52. What is a transaction in a database management system?
- A series of database operations that are treated as a single unit of work
 - A single database operation
 - A method used to encrypt data
 - A method used to compress data
53. Which of the following is typically used for tasks such as creating the structure of relations and deleting relations?
- DML (Data Manipulation Language)
 - Query
 - Relational Schema
 - DDL (Data Definition Language)
54. Which of the following enables the retrieval of information from the database and the insertion, deletion, and modification of data within the database?
- Query
 - DML (Data Manipulation Language)
 - Relational Schema
 - DDL (Data Definition Language)
55. Which of the following statements may contain an error?
- select empid from emp;
 - select empid where empid = 1009 and Lastname = 'GAUTAM';
 - select * from emp where empid = 10003;
 - select empid from emp where empid = 10006;
56. Which of the following best describes a Database Management System as a type of software?
- It is a type of system software
 - It is a kind of application software
 - It is a kind of general software
 - Both A and C

57. Which of the following describes the level of data abstraction that specifies how data is actually stored in a database?
- Physical Level
 - Logical Level
 - Conceptual Level
 - File Level
58. What are the rows of a relation referred to as?
- Tuples
 - Degree
 - Entity
 - All of the above
59. Which of the following is considered a type of data manipulation command in a database management system?
- Alter
 - Select
 - Create
 - Drop
60. Which of the following commands is considered a type of data definition language (DDL) command in a database management system?
- Delete
 - Create
 - Merge
 - Update
61. Which of the following represents a top-down approach in which the higher-level entity is divided into two lower-level sub-entities?
- Specialization
 - Generalization
 - Aggregation
 - All of the above
62. Which of the following represents a process in which multiple lower-level entities are grouped or combined together to form a single higher-level entity?
- Aggregation
 - Generalization
 - Specialization
 - None of the above
63. Which of the following terms refers to the number of attributes in a relation in a database management system?
- Degree
 - Column
 - Row
 - All of the above
64. Which of the following commands is used to modify a column within a table in a database management system?
- Alter
 - Drop
 - Set
 - Update
65. Which of the following is commonly used to define the overall design of a database in a database management system?
- Schema
 - Application program
 - Data definition language
 - Source code
66. Which of the following levels of data abstraction is considered closest to the end-users in a database management system?
- External Level
 - Internal Level
 - Conceptual Level
 - Physical Level
67. Which of the following is not considered a database management system (DBMS)?
- Google
 - MySQL
 - Microsoft Access
 - IBM DB2
68. What is the term used to describe information about data?
- Meta data
 - Relations
 - Hyper data
 - Tera data
69. Which of the following refers to an integrity constraint that states that values appearing in specified attributes of a tuple in the referencing relation must also occur in specified attributes of at least one tuple in the referenced relation?
- Specific
 - Referencing
 - Relational
 - Primary
70. Which of the following languages provides the ability to query data, as well as insert, delete, and alter tuples in a database management system?
- DML (Data Manipulation Language)
 - TCL (Transaction Control Language)
 - DDL (Data Definition Language)
 - DCL (Data Control Language)
71. Which of the following is considered the oldest database model?
- Hierarchical
 - Physical
 - Network
 - Relational
72. What is a data model?
- A representation of real-world entities and their relationships
 - A collection of data stored in a database
 - A set of rules for organizing data in a database
 - A type of software used to manage databases
73. What is the main purpose of a data model?
- To provide a conceptual view of data
 - To provide a physical view of data
 - To provide a logical view of data
 - All of the above
74. What is the oldest type of data model?
- Hierarchical
 - Network
 - Relational
 - Object-oriented
75. What is the main difference between a hierarchical data model and a network data model?
- Hierarchical data models use a tree-like structure, while network data models use a graph-like structure
 - Network data models use a tree-like structure, while hierarchical data models use a graph-like structure
 - Hierarchical data models are more flexible than network data models
 - Network data models are more flexible than hierarchical data models
76. What is a relational data model?
- A data model based on the mathematical concept of relations
 - A data model based on the mathematical concept of sets
 - A data model based on the mathematical concept of functions
 - A data model based on the mathematical concept of matrices
77. What is an object-oriented data model?
- A data model based on objects and classes
 - A data model based on relations and functions
 - A data model based on sets and matrices
 - A data model based on graphs and trees

- 78. What is the main difference between a relational data model and an object-oriented data model?**
- Relational data models are based on mathematical concepts, while object-oriented data models are based on objects and classes
 - Object-oriented data models are based on mathematical concepts, while relational data models are based on objects and classes
 - Relational data models are more flexible than object-oriented data models
 - Object-oriented data models are more flexible than relational data models
- 79. What is an entity-relationship data model?**
- A data model based on entities and their relationships
 - A data model based on attributes and keys
 - A data model based on objects and classes
 - A data model based on relations and functions
- 80. What is a dimensional data model?**
- A data model based on dimensions and facts
 - A data model based on entities and relationships
 - A data model based on sets and matrices
 - A data model based on objects and classes
- 81. What is the main difference between a dimensional data model and an entity-relationship data model?**
- Dimensional data models are based on dimensions and facts, while entity-relationship data models are based on entities and relationships
 - Entity-relationship data models are based on dimensions and facts, while dimensional data models are based on entities and relationships
 - Dimensional data models are more flexible than entity-relationship data models
 - Entity-relationship data models are more flexible than dimensional data models
- 82. What is the syntax for creating a table in SQL?**
- `CREATE TABLE table_name (column1 datatype, column2 datatype, ...);`
 - `CREATE TABLE (column1 datatype, column2 datatype, ...) table_name;`
 - `CREATE table_name (column1 datatype, column2 datatype, ...);`
 - `CREATE (column1 datatype, column2 datatype, ...) TABLE table_name;`
- 83. What is the syntax for inserting data into a table in SQL?**
- `INSERT INTO table_name (column1, column2, ...) VALUES (value1, value2, ...);`
 - `INSERT INTO (column1, column2, ...) VALUES (value1, value2, ...) table_name;`
 - `INSERT (column1, column2, ...) INTO table_name VALUES (value1, value2, ...);`
 - `INSERT table_name (column1, column2, ...) VALUES (value1, value2, ...);`
- 84. What is the syntax for updating data in a table in SQL?**
- `UPDATE table_name SET column1 = value1, column2 = value2, ... WHERE some_column = some_value;`
 - `SET table_name column1 = value1, column2 = value2, ... WHERE some_column = some_value;`
 - `UPDATE SET table_name column1 = value1, column2 = value2, ... WHERE some_column = some_value;`
 - `SET column1 = value1, column2 = value2, ... WHERE some_column = some_value IN table_name;`
- 85. What is the syntax for deleting data from a table in SQL?**
- `DELETE FROM table_name WHERE some_column = some_value;`
 - `DELETE table_name WHERE some_column = some_value;`
 - `REMOVE FROM table_name WHERE some_column = some_value;`
 - `REMOVE WHERE some_column = some_value IN table_name;`
- 86. What is the syntax for adding a new column to a table in SQL?**
- `ALTER TABLE table_name ADD COLUMN column_name datatype;`
 - `ADD COLUMN column_name datatype TO table_name;`
 - `ALTER ADD COLUMN column_name datatype TO table_name;`
 - `ADD COLUMN table_name column_name datatype;`
- 87. What is the syntax for changing the data type of a column in SQL?**
- `ALTER TABLE table_name MODIFY COLUMN column_name datatype;`
 - `MODIFY COLUMN column_name datatype IN table_name;`
 - `ALTER MODIFY COLUMN column_name datatype IN table_name;`
 - `MODIFY COLUMN table_name column_name datatype;`
- 88. What is a primary key in a database?**
- A unique identifier for each record in a table
 - A foreign key referencing another table
 - A combination of columns with unique values
 - A type of index to improve query performance
- 89. What is a foreign key in a database?**
- A unique identifier for each record in a table
 - A key referencing another table
 - A combination of columns with unique values
 - A type of index to improve query performance
- 90. What is a composite key in a database?**
- A unique identifier for each record in a table
 - A key referencing another table
 - A combination of columns with unique values
 - A type of index to improve query performance

91. What is a candidate key in a database?
- A unique identifier for each record in a table that can be used as a primary key
 - A foreign key referencing another table
 - A combination of columns with unique values
 - A type of index to improve query performance
92. What is a superkey in a database?
- A unique identifier for each record in a table that can be used as a primary key
 - A set of attributes that uniquely identify a record in a table
 - A combination of columns with unique values
 - A type of index to improve query performance
93. What is a secondary key in a database?
- A unique identifier for each record in a table that can be used as a primary key
 - A key referencing another table
 - A non-unique identifier for each record in a table
 - A type of index to improve query performance
94. What is a surrogate key in a database?
- A unique identifier for each record in a table, generated by the database system
 - A foreign key referencing another table
 - A combination of columns with unique values
 - A type of index to improve query performance
95. What is a natural key in a database?
- A unique identifier for each record in a table, generated by the database system
 - A key that uses a natural attribute of the record as the identifier
 - A combination of columns with unique values
 - A type of index to improve query performance
96. What is a composite foreign key in a database?
- A unique identifier for each record in a table
 - A key referencing another table using a combination of columns
 - A combination of columns with unique values
 - A type of index to improve query performance
97. What is a partial key in a database?
- A unique identifier for each record in a table
 - A key referencing another table
 - A non-unique identifier for a subset of records in a table
 - A type of index to improve query performance
98. What is the syntax for updating a record in a table in DML?
- `CREATE TABLE table_name (column1 data_type, column2 data_type, column3 data_type, ...);`
 - `UPDATE table_name SET column1 = value1, column2 = value2, ... WHERE some_column = some_value;`
 - `DELETE FROM table_name WHERE column = value;`
 - `INSERT INTO table_name (column1, column2, column3, ...) VALUES (value1, value2, value3, ...);`
99. How can you update multiple columns in a record in a table in DML?
- `UPDATE table_name SET column1 = value1;`
 - `UPDATE table_name SET column1 = value1 WHERE some_column = some_value;`
 - `UPDATE table_name SET column1 = value1, column2 = value2, ... WHERE some_column = some_value;`
 - `UPDATE table_name SET column1 = value1, column2 = value2 WHERE some_column = some_value;`
100. How can you update a record based on the value of another column in a table in DML?
- `UPDATE table_name SET column1 = value1, column2 = value2;`
 - `UPDATE table_name SET column1 = value1 WHERE column2 = value2;`
 - `UPDATE table_name SET column1 = value1, column2 = value2 WHERE column3 = value3;`
 - `UPDATE table_name SET column1 = value1 WHERE some_column = some_value;`
102. How can you update a record using a subquery in DML?
- `UPDATE table_name SET column1 = (SELECT column2 FROM other_table WHERE ...) WHERE some_column = some_value;`
 - `UPDATE table_name SET column1 = value1, column2 = value2 WHERE some_column = (SELECT column3 FROM other_table WHERE ...);`
 - `UPDATE table_name SET column1 = value1 WHERE some_column = some_value;`
 - `UPDATE table_name SET column1 = value1, column2 = value2;`
103. Which of the following best describes the relational algebra query language?
- Analytical
 - Procedural
 - Symmetrical
 - Instrumental
104. Which of the following is considered a type of relational operation in relational algebra?
- Project Operation
 - Union Operation
 - Set Difference
 - All of the above
105. Which symbol represents the SELECT operation in relational algebra?
- σ
 - R
 - P
 - S
106. Which symbol represents the PROJECT operation in relational algebra?
- P
 - R
 - O
 - Π

MULTIPLE CHOICE QUESTIONS

Database Management System (SET-2)

107. Which of the following operations are considered as fundamental in relational algebra?

- A. Select and Project
- B. Project and Cartesian product
- C. Union and Set Difference
- D. All of the above

ANSWER SHEET

1.B	2.A	3.C	4.B	5.B	6.A	7.C	8.A	9.C	10.D
11.A	12.A	13.D	14.A	15.C	16.B	17.B	18.B	19.D	20.A
21.A	22.A	23.C	24.D	25.D	26.B	27.C	28.A	29.C	30.A
31.D	32.A	33.B	34.C	35.A	36.B	37.C	38.A	39.B	40.C
41.D	42.A	43.A	44.A	45.A	46.A	47.A	48.A	49.B	50.A
51.A	52.A	53.D	54.B	55.B	56.A	57.A	58.A	59.B	60.B
61.A	62.B	63.A	64.A	65.A	66.A	67.A	68.A	69.C	70.A
71.A	72.A	73.D	74.A	75.A	76.A	77.A	78.A	79.A	80.A
81.A	82.A	83.A	84.A	85.A	86.A	87.A	88.A	89.B	90.C
91.A	92.B	93.C	94.A	95.A	96.B	97.C	98.B	99.C	100.B
101.A	102.A	103.B	104.D	105.A	106.D	107.D			

1. The first generation of DBMS is represented by systems:
A. Hierarchical and CODASYL systems
B. Relational model
C. Network model
D. None of the above

2. Data is:
A. Raw fact and figure
B. Information only
C. Metadata
D. None of the above

3. An important deliverables of the data integration process is.....
A. Information
B. Design plan
C. Metadata
D. None of the above

4. Which of the following is correct?
A. Data +DBMS = databases
B. Data + Database = DBMS
C. Database + DBMS = database system
D. None of the above

5. A general mode for data use is:
A. Queries
B. Both A. and C.
C. Transactions
D. None of the above

6. A repository of information about a database is known as a
A. Data dictionary
B. Database authority
C. Distributed administration
D. None of the above

7. DBA stands for:

- A. Database access
- B. Database Authority
- C. Database administration
- D. None of the above

8. The overall description of the database is known as:

- A. Instance
- B. Snapshot
- C. Schema
- D. None of the above

9. How many schemas will be there per level, per database?

- A. One
- B. Three
- C. Two
- D. Four

10. Schema is same as an:

- A. Extension of the database
- B. Subschema
- C. Intension of the database
- D. None of the above

11. ANSI-SPARC model consist of.....

- A. 2-layered model
- B. 4-layered model
- C. 3-layered model
- D. None of the above

12. Anything which exists and is distinguishable one another is known as.....

- A. Entity
- B. Relationship
- C. Attribute
- D. None of the above