

RDBMS

1. What is database?

Ans: A database is an organized collection of data and information in a systematic way.

2. Differentiate between Flat File Database & Relational Database?

Ans: **Flat File Database** – Flat file is a database with one database table. One single database table can include all the database's fields.

A single table flat file database can be okay if the database is only a small one with a few fields.

RDBMS – Relational databases are more widespread than the flat file database. Relational databases break up the single table of flat file database model.

Therefore Relational databases are split up into multiple database table with methods for the table to work together. These tables then need to be linked in some way by the database designer. Links are established with primary and foreign keys which are unique identifiers for the database tables. RDBMS is based on the relational model as introduced by E. R. Codd, of IBM's San Jose Research Laboratory.

3. Advantages of DBMS?

Ans: 1) Sharing of data – Different users can use the same database to access the data according to their needs.

2) Data Redundancy – Data Redundancy means duplication of data. It avoids duplication of data.

3) Data Inconsistency – It helps to avoid data inconsistency. It means if a single database is used by multiple users.

4) Confidentiality – The DBMS can ensure different views for the different users of the database.

5) Highly securable – Database can be secured by assigning a lock to it by using key.

6) Data Integrity – Data integrity is a set of rules that DBMS provides to see that incorrect or inconsistent data is not stored.

4. Application areas of Database system?

Ans: Travel industry, Banking and finance, Education, E-commerce, Health care industry, Digital libraries and publishing

5. What is field (column)?

Ans: A column of a table are also called attributes that contains only one type of information is called field. For example Name, Address, Contact No., Date of Birth, etc.

6. What is record (Rows)?

Ans: This is the horizontal part of the table. A set of various fields is called a record. All the information in the table in various columns represents a record. For example Name, Address, Date of birth, contact No. etc.

7. What is Tuple?

Ans: A single row of table, which contains a single record for that relation is called tuple.

8. What is degree?

Ans: The number of attributes (columns) in a table is called the degree of the table. For example, table student given below has degree.

9. What is Cardinality?

Ans: The number of rows in the table is called its cardinality.

10. What are data type in Access database?

Ans: Numeric types, alphanumeric types, binary types, date time, other variable types.

11. List data types available in Numeric data type?

Ans: 1) Boolean (Yes/ No) – Values 0 or 1. Example = True or False, Yes or No
2) Tinyint (tiny integer) – integer range between 0 to 255.
3) Smallint (small integer) – integer range between -215 + 215 - 1
4) Integer – Integer range between -231 and + 231 - 1
5) Bigint (big integer) – Range between -263 to + 263-1
6) Numeric – Maximum precision of e(+/-) 231
7) Decimal – Maximum precision of e(+/-) 231
8) Real 9) Float 10) Double

12. List data types in alphanumeric types in details?

Ans: 1) Longvarchar or memo – Stores up to the max length or number indicated by user. It accepts any (Unicode Transformation Format) UTF – 8 character.
2) CHAR text (fix) - Stores exactly the length specified by user. Pads with trailing spaces for shorter strings. Accepts any UTF 8 character.
3) VARCHAR (text) – Stores up to the specified length.
4) VARCHAR_IGNORECASE (text) – stores up the specified length. Comparisons are not case sensitive but stores capitals as you type them.

13. List data types in binary ?

Ans: Binary data types are used for storing data in binary formats. Binary data types in a database can be using for storing photos, music file etc.

- 1) LONGVARBINARY (image) – stores any array (An array is a data structure, which can store a fixed-size collection of elements of the same data type) of bytes (image, sounds etc).
- 2) BINARY (fix) – stores any array of bytes.
- 3) VARBINARY – stores any array of bytes.

14. List data type in date time?

Ans: Date time data type are used for describing date and time values for the field used in the table of a database.

- 1) date – stores month, day and year information. 1/1/99 to 1/1/9999
- 2) Time – stores hours, minute and second information
- 3) Timestamp – stores date and time information

15. What is primary key?

Ans: Primary key uniquely identifies each record in the table.

16. What is foreign Key?

Ans: The foreign key identifies a column or set of columns in one table that refers to a column or set of columns in another table.

19. What is data definition language?

Ans: DDL commands is used to create, modify and remove database object such as tables, indexes and users. These commands are CREATE, ALTER and DROP.

20. What is data manipulation language (DML)?

Ans: DML is a language that enables users to access and manipulate data in a database. These commands are SELECT , INSERT, UPDATE, DELETE.

21. How to create a database in Openoffice.org?

Ans: 1) Start – All programs – Openoffice.org – open office

2) In the pop-up window, click on database.

3) In the database wizard dialog box, select create a new database option.

4) Click Next.

5) Select create a new database option

- 6) Click on Next
- 7) Click finish
- 8) In the save as dialog box, select the desired location for the database and enter the name of the database file.
- 9) Click on Save button.

22. How can you create a table in design view?

Ans: 1) Create a new database

- 2) Click on Create Table in design view.
- 3) Design view window opens up.
- 4) Under Field name, specify the names of the fields. For each field define the data type under field type. Description is optional and is for documentation or reference purpose.
- 5) In field properties Specify the required value.
- 6) go to the file – select save option.
- 7) Save as dialog box will appear, type the file name and click save button.

23. What are the steps to set a primary key in a table?

Ans: 1) Open the table in the design view.

- 2) Select the field that you want to set as primary key.
- 3) Right click and short cut menu will appear select the primary key option.
- 4) The selected field will be set as the primary key.

24. Write the steps to create a form using form wizard?

Ans: A form can be created in two ways –

Using Form Design View and Using Form Wizard

- 1) Click on the category forms in database pane and then select Use wizard to create form.
- 2) In the form wizard dialog box – select the desired table from the 'Table or queries' drop – down. Then select the fields in the table that you need.
- 3) Then Click on Next button
- 4) Select the arrangement of the controls in the form and click next.
- 5) Select the data entry mode. Then click Next.
- 6) Select any display style for the form and click next.
- 7) Specify the name for the form and click finish button.

25. What are queries?

Ans: They let you quickly perform an action on a table. This action involves retrieving a choice bit of information (like the top 10 ranker students from mark list).

26. What is SQL command?

Ans: It is a keyword that denotes the action to be performed on the desired table like CREATE (to create database objects like tables), SELECT (to query data), UPDATE (for data modification) and DELETE (to remove data)

27. Write the SELECT statement with syntax?

Ans: Retrieval of Information from the database. The SELECT statement has many optional clauses:

- 1) WHERE specifies which rows to retrieve
- 2) ORDER BY specifies an order in which to return the rows.

Syntax -

Select <comma separated fields list> from <comma separated table names>
where <condition> order by <field name on which output to be stored> <ASC/DESC>

28. Write the INSERT statement?

Ans: Insertion of new information into the database. Insert statement is used to add one or more records to a database.

Syntax -

Insert into <table name> (comma separated list of fields) Values (comma separated list of values)

29. Write the UPDATE statement?

Ans: Update statement is used for modifying records in a database.

Syntax -

Update <table name> set <field name = value> where <criteria>

30. Write the DELETE statement?

Ans: Delete statement is used to remove one or more records in a database.

Syntax -

Delete from <table name> where <condition>

31. Write the CREATE statement?

Ans: Create statement is used for creating a database table in any RDBMS.

Syntax -

Create table <table name> ([column definitions]) [table parameters]

32. Write the DELETE records statement?

Ans: Deleting records is a very sensitive issue and should be delete with care.

Syntax -

Delete from <table name> where <criteria>

33. What are the steps in 'Report Wizard' to generate a report of a table? Ans: 1) Click on Use Wizard to Create Report.

2) From Tables or queries drop down select the desired table or query.

3) Select the fields

4) You can sort the report output on the basis of one or more fields.

5) Choose a report layout and page orientation. Then click Next.

6) Specify the title of the report. Finally click Finish.

34. Write SQL statement to create the following table Student:

Admission _ No Char(6)

Student _ Name Varchar(40)

Grade _ applied _ for Char (2)

Admission _ Date Date

Giving suitable reason mention which of the above fields should be the primary key in table student

Ans: CREATE TABLE Student (Admission_No Char(6) , Student_Name Varchar(40), Grade_applied_for Char(2), Admission_Date Date, Primary Key (Admission_No));

Admission_No field should be the primary key in the table student because admission no is unique record found in the student table.

35.

Write the SQL commands to answer the queries based on Fabric table

FabricID	Fname	Type	Disc
F001	Shirt	Wollen	10
F002	Suit	Cotton	20
F003	Tunic	Cotton	10
F004	Jeans	Denim	5
F006	Shorts	Cotton	7

- a) To insert the following record
("F005", "Kurta", "Wollen", 5)
- b) To display only those fabric whose disc is more than 10
- c) To display those record whose type is "Wollen"
- d) To modify the fabric shirt by increasing discount of 10
- e) To delete the record of fabric F003 from table

Ans:

- a) INSERT INTO "Fabric" ("FabricID", "Fname", "Type", "Disc") Values
('F001', 'Kurta', 'Wollen', '5');
- b) SELECT FabricID, Fname, Type, Disc from Fabric where Disc > 10;
- c) SELECT * from Fabric where Type = Wollen;
- d) UPDATE Fabric Set Disc= 12 where Fname=shirt
- e) DELETE from Fabric Where FabricID=F003

Fill in the blanks:

1. A **Database** is an organized collection of data.
2. A **DBMS** is a software package that can be used for creating and managing databases.
3. A **RDBMS** is a database management system that is based on the relational model.
4. Three popular DBMS software are **Microsoft Access** , **OpenOffice.org Base** , & **MySQL**.
5. A **Primary Key** is a unique value that identifies a row in a table.
6. Composite Key is a combination of **two or more** columns.
7. A table is a set of data elements that is organized using a model of vertical **columns** and horizontal **rows**.
8. A **column** is a set of data values of a particular type, one for each row of the table.
9. A **record or tuple** represents a single, data item in a table.
10. **Datatype** are used to identify which type of data we are going to store in the database.
11. **Create** DDL command is used to create a table.
12. Common DDL statements are **Create**, **Alter** and **Drop**.
13. The types of languages used for creating and manipulating the data in the Database are **DDL** & **DML**.
14. A **DDL** is a standard for commands that define the different structures in a database.
15. A **DML** is a language that enables users to access and manipulate data in a database.
16. A **query language** is a part of DML involving information retrieval only.
17. A popular data manipulation language is **Structured Query Language (SQL)**.
18. **Tables** are the basic building blocks of a database.
19. There are **three** types of Relationships in a table.
20. A **DBMS** helps the user to systematically store information in the database.
21. A **Forms** enables users to view, enter, and change data directly in database objects such as tables.
22. **Select** statement retrieves zero or more rows from one or more database tables or database views.
23. By default, data is arranged in **ascending** order using ORDER BY clause.
24. **Update** statement is used for modifying records in a database.
25. **delete** statement is used to remove one or more records in a Database.
26. To create a form you need to select **Forms** option available under Database section.
27. A **Query** is helps to collect specific information from the pool of data in the database.
28. **Data dashboard** is used to display the display the summary of data.
29. **GUI (Graphical User Interface)** are the interfaces with which the user interacts.
30. Data from multiple tables can be stored in **Database**.