

WORKSHEET 1 SQL

Q1 and Q2 have one or more correct answer. Choose all the correct option to answer your question.

1. Which of the following is/are DDL commands in SQL?
A) Create
B) Update
C) Delete
D) ALTER
Ans.(A) Create ,(D) ALTER
2. Which of the following is/are DML commands in SQL?
A) Update
B) Delete
C) Select
D) Drop
Ans. (A) Update (B) Delete (C) Select

Q3 to Q10 have only one correct answer. Choose the correct option to answer your question.

3. Full form of SQL is:
A) Strut querying language
B) Structured Query Language
C) Simple Query Language
D) None of them
Ans.(B) Structured Query Language
4. Full form of DDL is:
A) Descriptive Designed Language
B) Data Definition Language
C) Data Descriptive Language
D) None of the above.
Ans.(B) Data Definition Language
5. DML is:
A) Data Manipulation Language
B) Data Management Language
C) Data Modeling Language
D) None of these
Ans(A) Data Manipulation Language
6. Which of the following statements can be used to create a table with column B int type and C float type?
A) Table A (B int, C float)
B) Create A (b int, C float)
C) Create Table A (B int,C float)
D) All of them
Ans.(C) Create Table A (B int,C float)
7. Which of the following statements can be used to add a column D (float type) to the table A created above?
A) Table A (D float)
B) Alter Table A ADD COLUMN D float
C) Table A(B int, C float, D float)
D) None of them
Ans(B) Alter Table A ADD COLUMN D float
8. Which of the following statements can be used to drop the column added in the above question?
A) Table A Drop D
B) Alter Table A Drop Column D
C) Delete D from A
D) None of them
Ans.(B) Alter Table A Drop Column D
9. Which of the following statements can be used to change the data type (from float to int) of the column D of table A created in above questions?
A) Table A (D float int)
B) Alter Table A Alter Column D int
C) Alter Table A D float int
D) Alter table A Column D float to int
Ans.(D)Alter table A Column D float to int
10. Suppose we want to make Column B of Table A as primary key of the table. By which of the following statements we can do it?
A) Alter Table A Add Constraint Primary Key B
B) Alter table (B primary key)
C) Alter Table A Add Primary key B
D) None of them
Ans.(C) C) Alter Table A Add Primary key B

Q11 to Q15 are subjective answer type questions, Answer them briefly.

11. What is data-warehouse?

Ans. A **data warehouse** is like a data management system that is designed to enable and support business intelligence (BI) activities, especially analytics. Data warehouses are solely intended to perform queries and analysis and often contain large amounts of historical data. The data within a data warehouse is usually derived from a wide range of sources such as application log files and transaction applications.

- A Relational database to store and manage data.
- An extraction, loading, and transformation (ELT) solution for preparing the data for analysis
- Statistical analysis, reporting, and data mining capabilities
- Client analysis tools for visualizing and presenting data to business users.

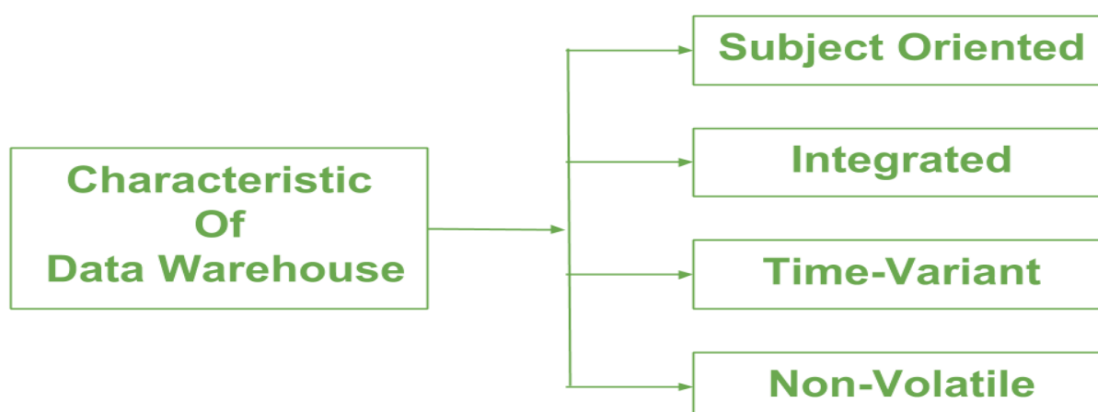
12. What is the difference between OLTP VS OLAP?

Ans.

No.	Category	OLAP (Online analytical processing)	OLTP (Online transaction processing)
1.	Definition	It is well-known as an online database query management system.	It is well-known as an online database modifying system.
2.	Data source	Consists of historical data from various Databases.	Consists of only of operational current data.
3.	Method used	It makes use of a data warehouse.	It makes use of a standard database management system (DBMS).
4.	Application	It is subject-oriented. Used for Data Mining, Analytics, Decisions making, etc.	It is application-oriented. Used for business tasks.
5.	Normalized	In an OLAP database, tables are not normalized.	In an OLTP database, tables are normalized (3NF).
6.	Usage of data	The data is used in planning, problem-solving, and decision-making.	The data is used to perform day-to-day fundamental operations.
7.	Task	It provides a multi-dimensional view of different business tasks.	It reveals a snapshot of present business tasks.
8.	Purpose	It serves the purpose to extract information for analysis and decision-making.	It serves the purpose to Insert, Update, and Delete information from the database.
9.	Volume of data	A large amount of data is stored typically in TB, PB	The size of the data is relatively small as the historical data is archived. For ex MB, GB
10.	Queries	Relatively slow as the amount of data involved is large. Queries may take hours.	Very Fast as the queries operate on 5% of the data.

13. What are the various characteristics of data-warehouse?

Ans.



1. Subject-oriented –

A data warehouse is always a subject oriented as it delivers information about a theme instead of

organization's current operations. It can be achieved on specific theme. That means the data warehousing process is proposed to handle with a specific theme which is more defined. These themes can be sales, distributions, marketing etc.

A data warehouse never put emphasis only current operations. Instead, it focuses on demonstrating and analysis of data to make various decision. It also delivers an easy and precise demonstration around particular theme by eliminating data which is not required to make the decisions.

2. **Integrated –**

It is somewhere same as subject orientation which is made in a reliable format. Integration means founding a shared entity to scale the all similar data from the different databases. The data also required to be resided into various data warehouse in shared and generally granted manner.

A data warehouse is built by integrating data from various sources of data such that a mainframe and a relational database. In addition, it must have reliable naming conventions, format and codes. Integration of data warehouse benefits in effective analysis of data. Reliability in naming conventions, column scaling, encoding structure etc. should be confirmed. Integration of data warehouse handles various subject related warehouse.

3. **Time-Variant –**

In this data is maintained via different intervals of time such as weekly, monthly, or annually etc. It founds various time limit which are structured between the large datasets and are held in online transaction process (OLTP). The time limits for data warehouse is wide-ranged than that of operational systems. The data resided in data warehouse is predictable with a specific interval of time and delivers information from the historical perspective. It comprises elements of time explicitly or implicitly. Another feature of time-variance is that once data is stored in the data warehouse then it cannot be modified, alter, or updated.

4. **Non-Volatile –**

As the name defines the data resided in data warehouse is permanent. It also means that data is not erased or deleted when new data is inserted. It includes the mammoth quantity of data that is inserted into modification between the selected quantity on logical business. It evaluates the analysis within the technologies of warehouse.

In this, data is read-only and refreshed at particular intervals. This is beneficial in analysing historical data and in comprehension the functionality. It does not need transaction process, recapture and concurrency control mechanism. Functionalities such as delete, update, and insert that are done in an operational application are lost in data warehouse environment. Two types of data operations done in the data warehouse are:

- Data Loading
- Data Access

14. What is Star-Schema??

Ans. A star schema is a database organizational structure optimized for use in a data warehouse or business intelligence that uses a single large fact table to store transactional or measured data, and one or more smaller dimensional tables that store attributes about the data. It is called a star schema because the fact table sits at the center of the logical diagram, and the small dimensional tables branch off to form the points of the star.

15. What do you mean by SETL?

Ans. SETL (SET Language) is a very high-level programming language based on the mathematical theory of sets. In Maths, sets are a collection of well-defined objects or elements. A set is represented by a capital letter symbol and the number of elements in the finite set is represented as the cardinal number of a set in a curly bracket {...}. For example, set A is a collection of all the natural numbers, such as $A = \{1, 2, 3, 4, 5, 6, 7, 8, \dots, \infty\}$. Also, check [sets](#) here.

Sets can be represented in three forms:

1. Roster Form: Example- Set of even numbers less than 8 = {2, 4, 6}
2. Statement Form: Example- $A = \{\text{Set of Odd numbers less than 9}\}$
3. Set Builder Form: Example: $A = \{x: x=2n, n \in \mathbb{N} \text{ and } 1 \leq n \leq 4\}$

