WORKSHEET 1 SQL

1. Which of the following is/are DDL commands in SQL?

Ans Create

ALTER

2. Which of the following is/are DML commands in SQL?

Ans Update

Delete

3. Full form of SQL is:

Ans Structured Query Language

4. Full form of DDL is:

Ans Data Definition Language

5. DML is:

Ans 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?

ANS 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?

ANS 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?

Ans 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?

Ans 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?

Ans Alter Table A Add Primary key B

11. What is data-warehouse?

Ans A data warehouse is a central repository of information that can be analysed to make more informed decisions. Data flows into a data warehouse from transactional systems, relational databases, and other sources, typically on a regular cadence. It stores data in relational tables using columnar storage which reduces the data storage costs, and improve query performance. SQL data warehouse leverages a scale-out architecture to distribute computational processing of data across multiple nodes.

12. What is the difference between OLTP VS OLAP?

Ans

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| --- | --- | --- |
| CATEGORY | OLAP(online analytical processing) | OLTP(online transaction processing) |
| DEFINITION | It is well known as an online database query management system | It is well known as an online database modifying system |
| DATA SOURCE | It consist of historical data from various databases. | It consist of only of operational current data. |
| METHOD USED | It makes use of a data warehouse | It makes use of a standard database management system |
| APPLICATION | It is subject oriented. Used for data mining, analytics, decision making, etc. | It is application oriented. Used for business tasks. |
| NORMALIZED | In an OLAP database, tables are not normalized. | In an OLTP database, tables are normalized |
| USAGE OF DATA | The data is used in planning, problem solving, and decision making. | The data is used to perform day to day fundamental operation. |
| TASK | It provides a multi-dimensional view of different business task. | I reveals a snapshot of present business tasks. |
| 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 |
| VOLUME OF DTA | 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 example MB,GB |
| NATURE OF AUDIENCE | Process that is focused on the customer. | Process thar is focused on the market |
| PRODUCTIVITY | Improves the efficiency of business analysts | Enhances the user’s productivity. |

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

Ans There are various characteristics of data-warehouse

* 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, these themes can be sales, distributions, marketing etc.
* 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 database.
* Time-Variant= In this, the 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)
* Non-Volatile= 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.

14. What is Star-Schema??

Ans A star schema is a multi-dimensional data model used to organize data in a database so that it is easy to understand and analyse. Star schemas can be applied to data warehouse, database, data marts, and other tools. The star schema design is optimized for querying large data sets.

Star schemas are efficient at storing data, maintaining history, and updating data by reducing the duplication of repetitive business definitions, making it fast to aggregate and filter data in the data warehouse.

15. What do you mean by ETL?

Ans ETL stands for EXTRACT, TRANSFORM and LOAD. These are three database functions that are combined into one tool to extract data from a database, modify it, and place it into another database. It enables data analysis and business information, effectively preparing data for analysis and business intelligence processes.

Extraction- process in which raw data is pulled from a source or multiple sources.

Transformation- process in which data is updated to match the needs of an organisation and the requirements of its data storage solution. Transformation can involve standardizing, cleansing, mapping, augmenting and other.

Loading- process in which data is delivered and secured for sharing, making business ready data available to other users and department both within the organization and externally.