WORKSHEET 1 SQL

Q.1] A & D

Q.2] A & B

Q.3] B

Q.4] B

Q.5] A

Q.6] C

Q.7] B

Q.8] B

Q.9] B

Q.10] A

Q.11] What is data-warehouse?

ANS. = A data warehouse is a collection of technologies and techniques for collecting, storing, managing, and analyzing large amounts of data from various sources to support decision-making and strategic planning in an organization. Data is typically extracted from different operational systems, transformed to fit the data warehouse's schema, and loaded into the data warehouse on a regular basis. Data warehouses are designed to support reporting, data mining, and analytics, and are optimized for read-heavy workloads. They are commonly used to support business intelligence (BI) activities.

Q.12] What is the difference between OLTP VS OLAP?

ANS. = OLTP (Online Transaction Processing) and OLAP (Online Analytical Processing) are two different types of database systems that serve different purposes.

OLTP is designed to handle a high volume of short, online transactions with a high level of concurrency. These transactions are typically simple and involve inserting, updating, or deleting small amounts of data. The main goal of OLTP systems is to ensure data consistency and integrity, and to quickly process transactions.

OLAP, on the other hand, is designed for complex, multi-dimensional analysis of large amounts of data. It is used for business intelligence and decision-making, and allows users to analyze data from different angles and perspectives. OLAP systems are optimized for read-heavy workloads and are typically built on top of a data warehouse.

In summary, OLTP systems are designed for transactional processing while OLAP systems are designed for analytical processing. OLTP systems are used to support operational systems, while OLAP systems are used to support reporting and business intelligence applications.

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

ANS. = Data warehouses have several characteristics that distinguish them from other types of databases:

1] Subject-oriented: Data warehouses are designed to focus on a specific subject area, such as sales or customers.

2] Integrated: Data warehouses integrate data from multiple sources, such as transactional databases and external data sources.

3] Time-variant: Data warehouses store historical data, allowing users to analyze data as it changed over time.

4] Non-volatile: Once data is loaded into a data warehouse, it should not change. This allows for consistent analysis over time.

5] Summarized: Data warehouses often contain summarized or aggregated data, which allows for faster querying and analysis.

6] Accessible: Data warehouses provide a centralized location for business users to access and analyze data using tools such as SQL, Business Intelligence, and reporting tools.

7] Scalable: Data warehouses are designed to handle large amounts of data, allowing them to scale as the amount of data grows.

Q.14] What is Star-Schema?

ANS. = A star schema is a type of database schema where a central table, called the "fact table," is connected to one or more dimension tables. The fact table contains the measures or quantitative data, while the dimension tables contain the attributes or descriptive data. The relationships between the fact table and dimension tables are represented by foreign key constraints.

The name "star schema" comes from the diagram that is often used to represent the schema, which looks like a star with the fact table in the center and the dimension tables radiating outwards.

Star schema is commonly used in data warehousing and business intelligence systems, as it allows for efficient querying and analysis of large amounts of data. The denormalized structure of the schema makes it easy to navigate and understand, which is helpful for business users who may not have a technical background. Additionally, the use of dimension tables allows for easy grouping and aggregation of data, making it useful for generating reports and summaries.

Q.15] What do you mean by SETL ?

ANS. = SETL (SET Language) is a programming language designed for data manipulation and analysis. It was first developed in the 1970s by Jack Schwartz, a professor of Computer Science at the City University of New York. SETL is based on the mathematical concept of sets and set operations, which makes it particularly well-suited for tasks such as data warehousing and business intelligence.

SETL is a high-level, declarative language, which means that the programmer specifies what they want the program to accomplish, rather than how to accomplish it. SETL's syntax is similar to mathematical notation, making it easy to read and understand. SETL programs are compiled into machine code, which allows them to be executed quickly. SETL also supports parallel processing, which makes it well-suited for handling large amounts of data. SETL is also known for its support for set operations, which are useful in data manipulation and analysis. SETL is not widely used in industry, but it is still used in some academic circles and research projects. It is not widely adopted because of its complex nature and lack of support in modern development environments.