**211720106038**

**S MUGULSUNDAR**

**Q1. What is a data warehouse? List the types of Data warehouse architectures.**

Data Warehouse (DWH), is also known as an Enterprise Data Warehouse (EDW). A Data Warehouse is defined as a central repository where information is coming from one or more data sources. Three main types of Data warehouses are Enterprise Data Warehouse (EDW), Operational Data Store, and Data Mart.

**Q2. What does OLAP stand for?**

Online analytical processing (OLAP) is a technology that organizes large business databases and supports complex analysis. It can be used to perform complex analytical queries without negatively affecting transactional systems.

**Q3. What does OLTP stand for?**

OLTP (online transaction processing) is a class of software programs capable of supporting transaction-oriented applications. In computing, a transaction is a sequence of discrete information exchanges that are treated as a unit. Many everyday acts involve OLTP, including online banking, online shopping and even in-store shopping when the point of sale (POS) terminal is tied to inventory management software.

Two important characteristics of an OLTP system are concurrency and atomicity.

**Q4. What is a star schema?**

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

**Q5. What is a snow flake schema?**

A snowflake schema is a multi-dimensional data model that is an extension of a star schema, where dimension tables are broken down into subdimensions. Snowflake schemas are commonly used for business intelligence and reporting in OLAP data warehouses, data marts, and relational databases.

**Q6. Define fact-less fact.**

Factless facts are those fact tables that have no measures associated with the transaction. Factless facts are a simple collection of dimensional keys which define the transactions or describing condition for the time period of the fact.

For example, if you are modelling product sales, you can have a Sales fact table that will contain the dimension keys and, for example, the “amount” value/measure, to record the amount.

**Q7. What do you understand by dimensional modeling?**

Data Dimensional Modelling (DDM) is a technique that uses Dimensions and Facts to store the data in a Data Warehouse efficiently. It optimises the database for faster retrieval of the data. Dimensional Models have a specific structure and organise the data to generate reports that improve performance.

**Q8. What is a data mart?**

A data mart is a simple form of data warehouse focused on a single subject or line of business. With a data mart, teams can access data and gain insights faster, because they don't have to spend time searching within a more complex data warehouse or manually aggregating data from different sources.