Data Warehousing

Homework 7

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

A Data Warehouse is defined as a central repository where information is coming from one or more data sources. Data Warehousing integrates data and information collected from various sources into one comprehensive database. The types of Data warehouse architecture are,

> Single-tier data warehouse

> Two-tier data warehouse

> Three-tier data warehouse

Q2. What does OLAP stand for?

Online Analytical Processing (OLAP) is a system for performing multi-dimensional analysis at high speed on large amount of data. Generally, this data is from a data warehouse, data mart or any other centralized data store.

Q3. What does OLTP stand for?

Online Transactional Processing (OLTP) is a system that enables the real time execution of large numbers of database transactions by large numbers of people over the Internet. OLTP systems are responsible for our everyday transactions from ATMs to in-store purchases. OLTP uses a relational database.

Q4. What is a star schema?

Star schema is a mechanism to separate facts and dimensions into separate tables. It is a database organizational structure optimized for use in a data warehouse 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 which is an extension of a star schema where dimension tables are broken down into sub-dimensions. Snowflake schemas are commonly used for business intelligence and reporting in OLAP data warehouses, data marts, and relational databases.

Q6. Define fact-less fact.

A fact-less fact is a fact table that does not have any measures. Fact-less facts are a simple collection of dimensional keys which define the transactions or describing condition for the time period of the fact.

Q7. What do you understand by dimensional modeling?

Dimensional modeling is a data structure technique optimized for data storage in a Data warehouse. The purpose of dimensional modeling is to optimize the database for faster retrieval of data. In dimensional modeling, the transaction record is divided into either "facts," which are frequently numerical transaction data, or "dimensions," which are the reference information that gives context to the facts.

Q8. What is a data mart?

Data mart is a simple form of a data warehouse that is focused on a single subject or line of business, such as finance or marketing. Data mart make specific data available to the respecetd group of users which allows them to quickly access critical analytics without wasting time for searching through an entire data warehouse.