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BIG DATA HOME WORK 5

Question No:1

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

A:

- **A data warehouse architecture is a method of defining the overall architecture of**
- **Data communication processing and presentation that exist for end-clients computing within the enterprise.**
- **Each data warehouse is different, but all are characterized by standard vital components.**

Types of Data Warehouse Architecture :

- **Single-tier architecture, which aims to deduplicate data to minimize the amount of stored data.**
- **Three-tier architecture.**
- **Data Warehouse Database.**
- **Extraction,Transformation,and Loading Tools (ETL)**
- **Metadata.**
- **Data Warehouse Access Tools.**

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Question No:2

2.What does OLAP stand for?

A:

- **Online analytical processing (OLAP) is a system for performing multi-dimensional analysis**
- **At high speeds on large volumes of data.Typically, this data is from a data warehouse,**
- **Data mart or some other centralized data store.**

Question No:3

3.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.**

Question No:4

4.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.**

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Question No:5

5.What is a snow flake schema?

A:

- **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.**

Question No:6

6.Define fact-less fact.

A:

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

Question No:7

7.What do you understand by dimensional modelling?

A:

- **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.**

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Question No:8

8.What is a data mart?

A:

- **A data mart is a structure / access pattern specific to data warehouse environments, used to retrieve client-facing data.**
- **Data mart is a subset of the data warehouse and is usually oriented to a specific business line or team.**