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**DATA ENGINERING**

**Task 2**

**Data Mart:**

A **Data Mart**is focused on a single functional area of an organization and contains a subset of data stored in a Data Warehouse. A Data Mart is a condensed version of Data Warehouse and is designed for use by a specific department, unit or set of users in an organization. E.g., Marketing, Sales, HR or finance. It is often controlled by a single department in an organization .Data Mart usually draws data from only a few sources compared to a Data warehouse. Data marts are small in size and are more flexible compared to a Data warehouse.

**Data Lakehouse:**

A data lakehouse is a new, big-data storage architecture that combines the best features of both data warehouses and data lakes. A data lakehouse enables a single repository for all your data.

**Data Mesh:**

Data mesh is a data platform architecture that allows end-users to easily access important data without transporting it to a data lake or data warehouse and without needing expert data teams to intervene. Data mesh focuses on decentralization, distributing data ownership among teams who can manage data as a product independently and securely.

**Data Warehouse Vs Data Lake:**

Data warehouses are designed for structured data and optimized for quering and reporting while data lakes are designed for unstructured and structured data and optimized for exploratory data analysis and machine learning.

**OTLP VS OLAP:**

OTLP is focused on processing transactions in real time. OTLP is optimized for data consistency and efficient data storage. while OLAP is focused on analyzing and reporting on data after it has been processed. OLAP optimized for complex queries and data aggregation.