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classmate
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Database Characteristics:-

A variety of database types have emergenced over the last several decades. All databases store info but each database will have its own characteristics. Relational database store data in tables with fixed rows and columns. Non-relational databases store data in variety of models includes JSON, BSON, key-value pair tables with rows & dynamic columns and nodes and edges

Characteristics:-

→ Security features to ensure the data only be accessed by authorised users
→ ACID C Atomicity, Consistent, isolation, durability) transcation to ensure data intergity.
→ Query language and API's to easily interact with data
→ Indexes to optimize query performance
→ Full-text search
→ Optimizations for mobile devices

Why use a database:-

If your application needs to store data, your application needs a database. Applications across industries and use cases are built on databases. Many types of data can be stored in databases, including:-

→ patient medical records
→ Items in an online store
→ Financial records
→ Articles & blog entries
→ sports scores & statictics
→ Online gaming information
→ Sports scores & statics tics
→ Online gaming information.
→ Student grades and scores.
→ IOT device.

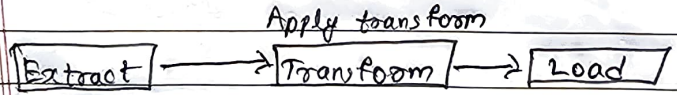
OLAP + data warehouses & data lakes:-

Both data warehouses and data lakes are mean to support online Analytical Processing (OLAP). OLAP systems are typically used to collect data from a variety of sources, the data is then used to power a range of analytical use cases ranging from business intelligence and reporting to forecasting (eg:- predicting time sales for the next six months based on historical trends).

What is data warehouse?

A data warehouse is a system that shows highly structed information from various sources. Data warehouse typically store current and historical data from one or more systems. the goal of using a data warehouses is to combine disperate data sources in order to analysize the data, look for insights. and create business intelligence (BI) in the form of reports and dash boards.

Data warehouse is a giant database that is optimized for analysis.



Raw data from the sources

highly curated, cleansed, filtered, & aggregate data

Data loading in DW, DBC, DATA LAKE.

	Database	Data lake	Data warehouse
Work load	operational & transactional	Analytical	Analytical

Databases, data warehouse, data lakes are all used to store data. So what's the difference.

The key difference blw a database, a data warehouse, and a data lake are that.