

Case Study

Aim: Design conceptual model using Star and Snowflake schema for any one database.

Theory:

Multidimensional Schema:

The relations in a data warehouse schema can be classified as fact tables and dimension tables.

Fact table:

Fact tables record information about individual events, such as sales in this case, and are usually very large.

The attributes in fact table can be classified as either dimension attributes or measure attributes.

Measure Attributes:

The measure attributes store quantitative information, which can be aggregated upon.

Dimension Attributes:

Dimension attributes are dimensions upon which measure attributes, and summaries of measure attributes, are grouped and viewed.

To minimize storage requirements, dimension attributes are usually short identifiers that are foreign keys into other tables called dimension tables.

Data that can be modelled using dimension attributes and measure attributes is called multidimensional data.

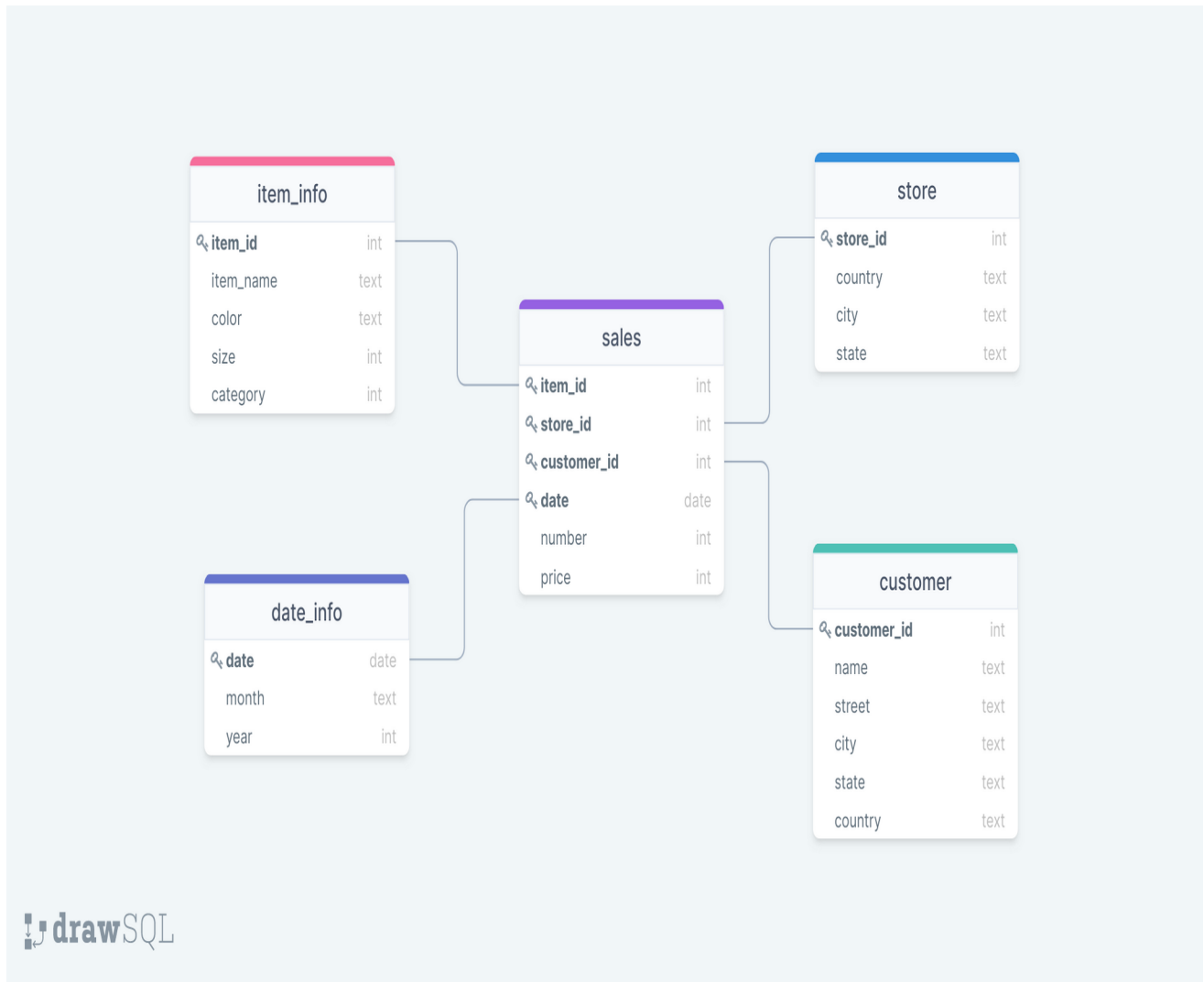
Following is the Star and snowflake schema for a sales database.

- 1 Star Schema:

Star schema includes a fact table at the centre with multiple dimension tables.

It consists of having foreign keys from the fact table to the dimension tables.

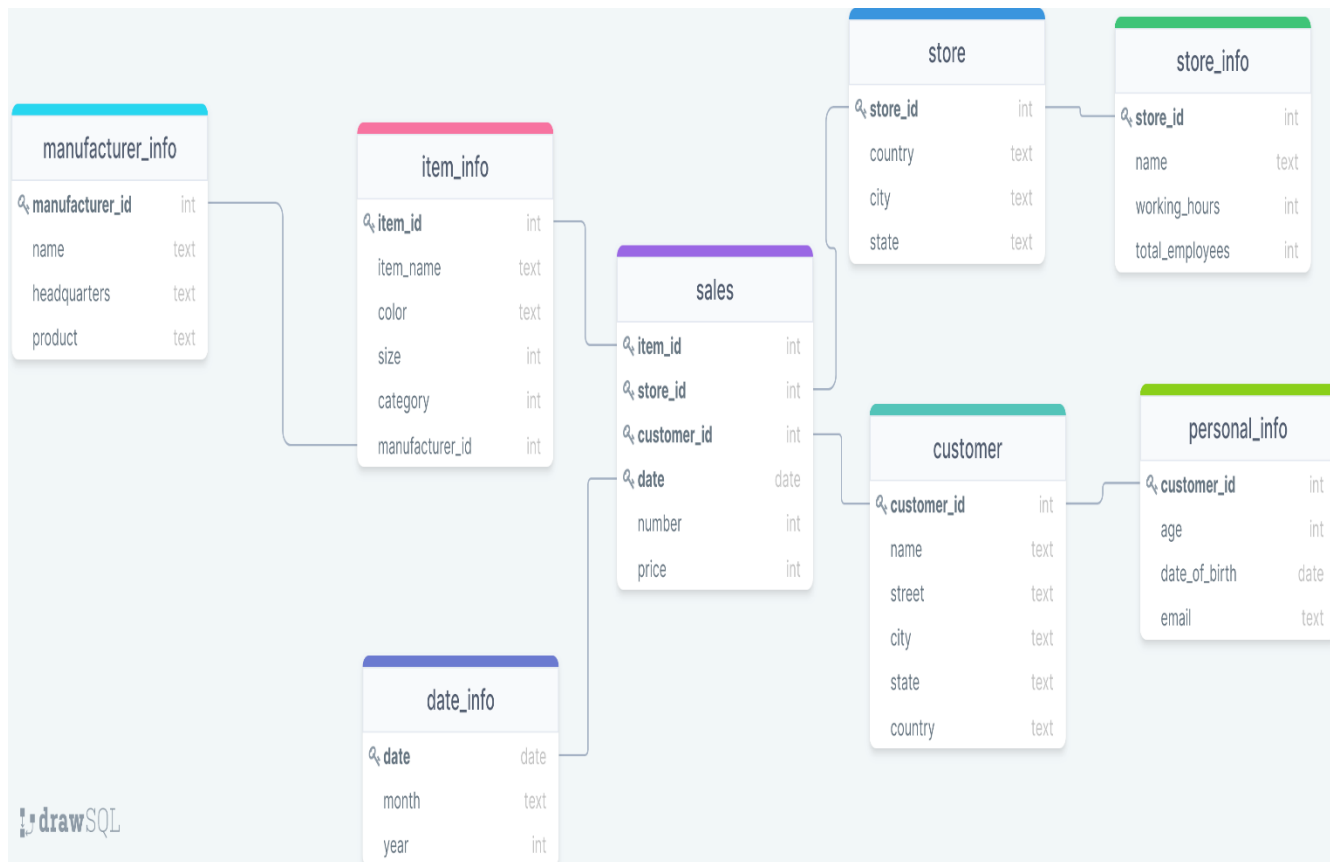
Star schema is the simplest data warehouse schema and is optimized for querying large databases.



2 Snowflake Schema:

Snowflake Schema is an extension of the star schema. Snowflake schema is used to model complex data warehouse designs that have multiple levels of dimensions.

Snowflake schema uses smaller disk space, but multiple dimension tables reduce the query performance.



Conclusion:

Conceptual data warehousing models such as Star schema and Snowflake schema were studied and implemented for sales database.