Microsoft
Power Platform

Online Role-based training resources:

Microsoft Learn
https://docs.microsoft.com/en-us/learn/

Microsoft Power Platform

Module 4: Design a Data Model In Power BI
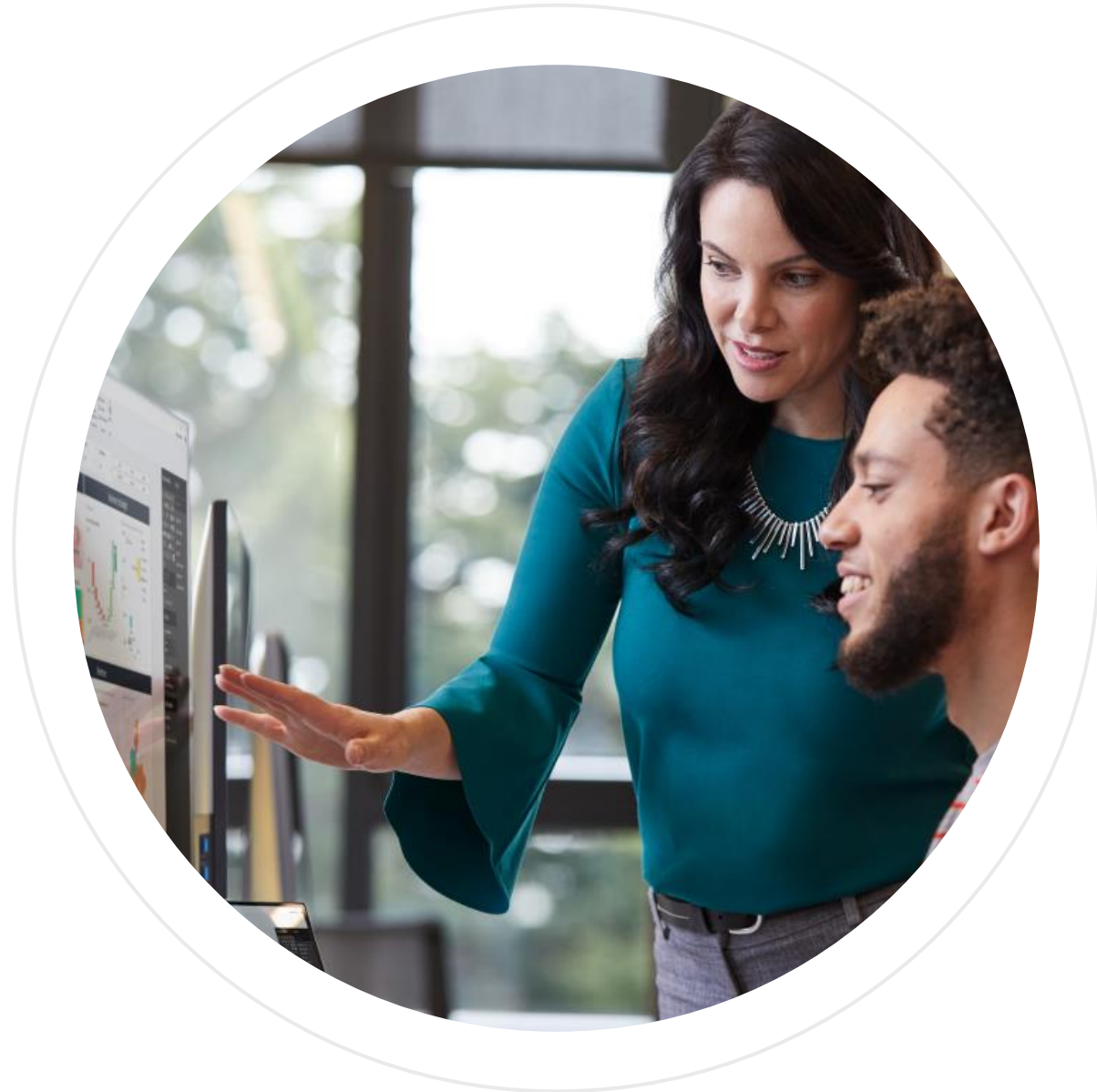
Learning Objectives

You will learn the following concepts:

- Data Modeling

- Working with Tables

- Dimensions and Hierarchies

Module Agenda

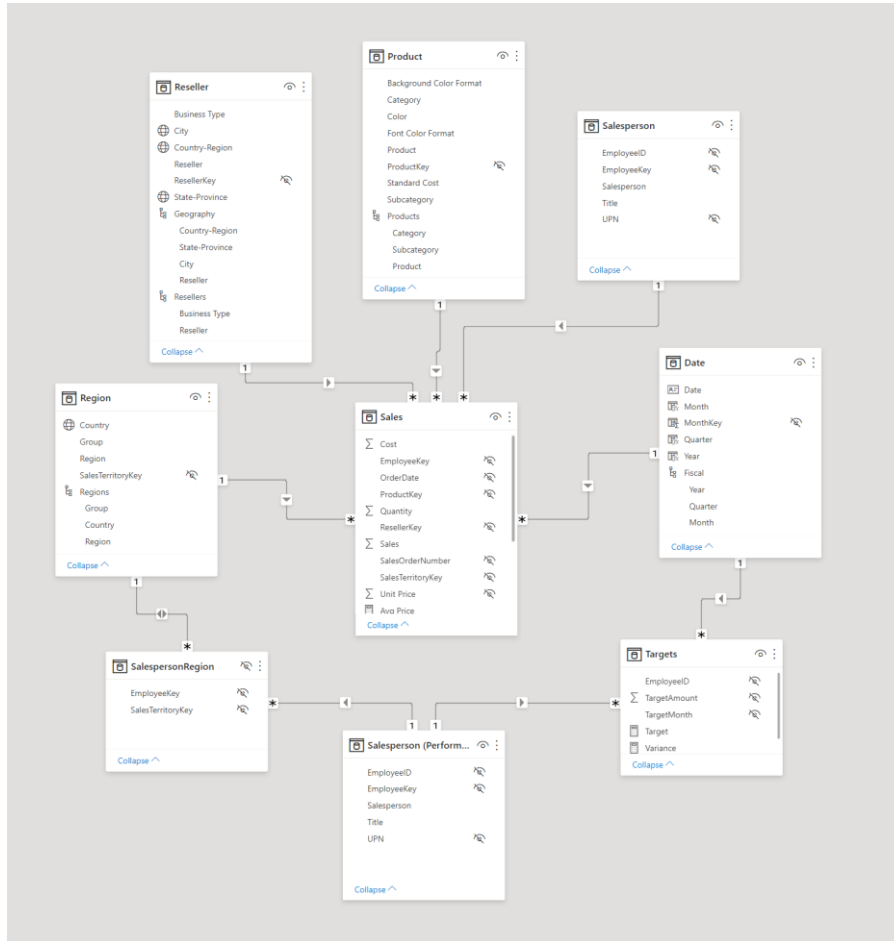Introduction to Data Modeling

Working with Tables

Dimensions and Hierarchies

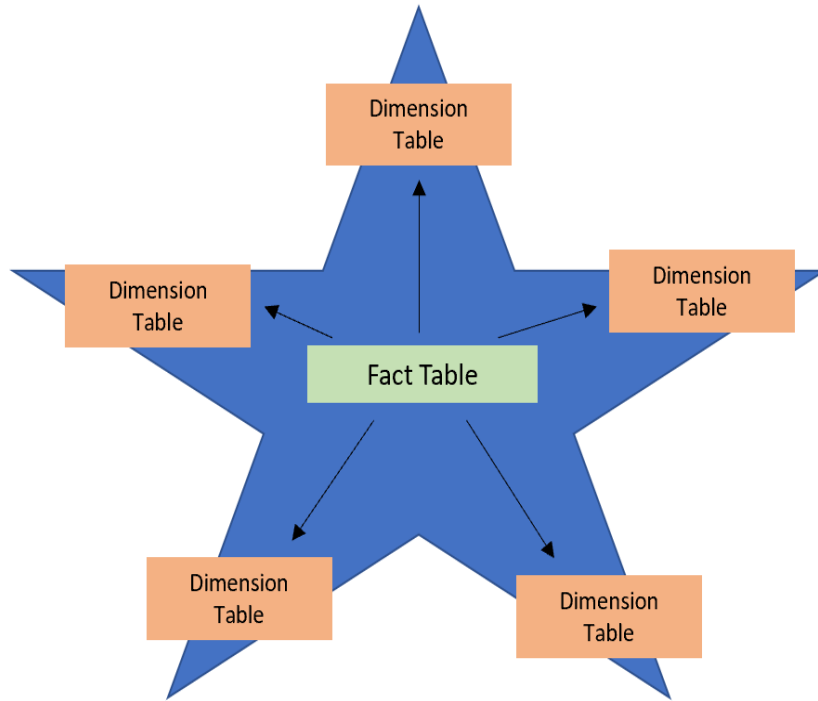# Lesson 1: Introduction to Data Modeling

Introduction to Dashboards

Benefits of a good data model:

- Accurate reports.

- Faster data exploration.

- Simpler aggregations.

- Easier to maintain.

Star Schemas

Tables are classified as dimension or fact tables:

Dimension: Describes business entities.
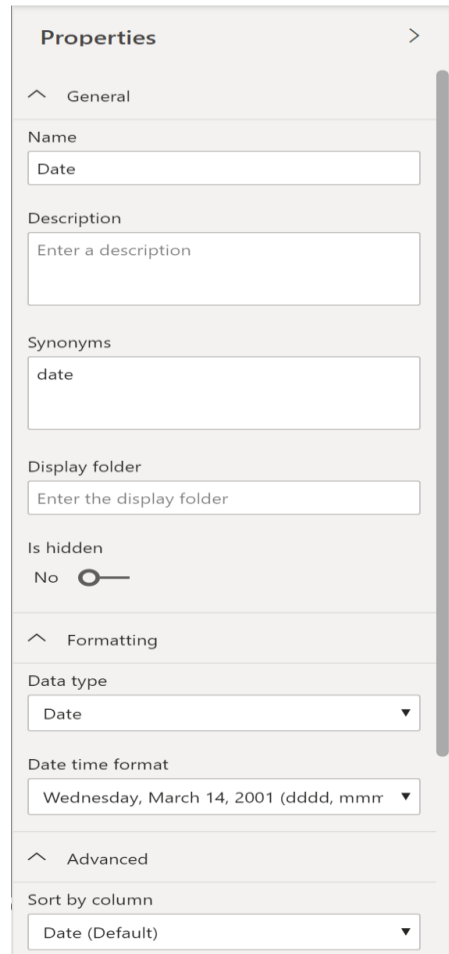
Fact: Store observations or events.

Review Questions

- Q01 – The two types of tables in a star schema are what?

- Q02 – What is the difference between a fact table and a dimension table?

Lesson 2: Working with Tables

Configure Table and Column Properties

Before working on reports, ensure your model and table structure are simplified.

A simple table structure will be easy to navigate.

Create a Dates Table

Standardize on date formats and ranges that meet company requirements.

Date	Year	MonthNum	WeekNum	DayoftheWeek
Tuesday, May 31, 2011	2011	5	23	Tuesday
Wednesday, June 1, 2011	2011	6	23	Sunday
Thursday, June 2, 2011	2011	6	23	Monday
Friday, June 3, 2011	2011	6	23	Tuesday

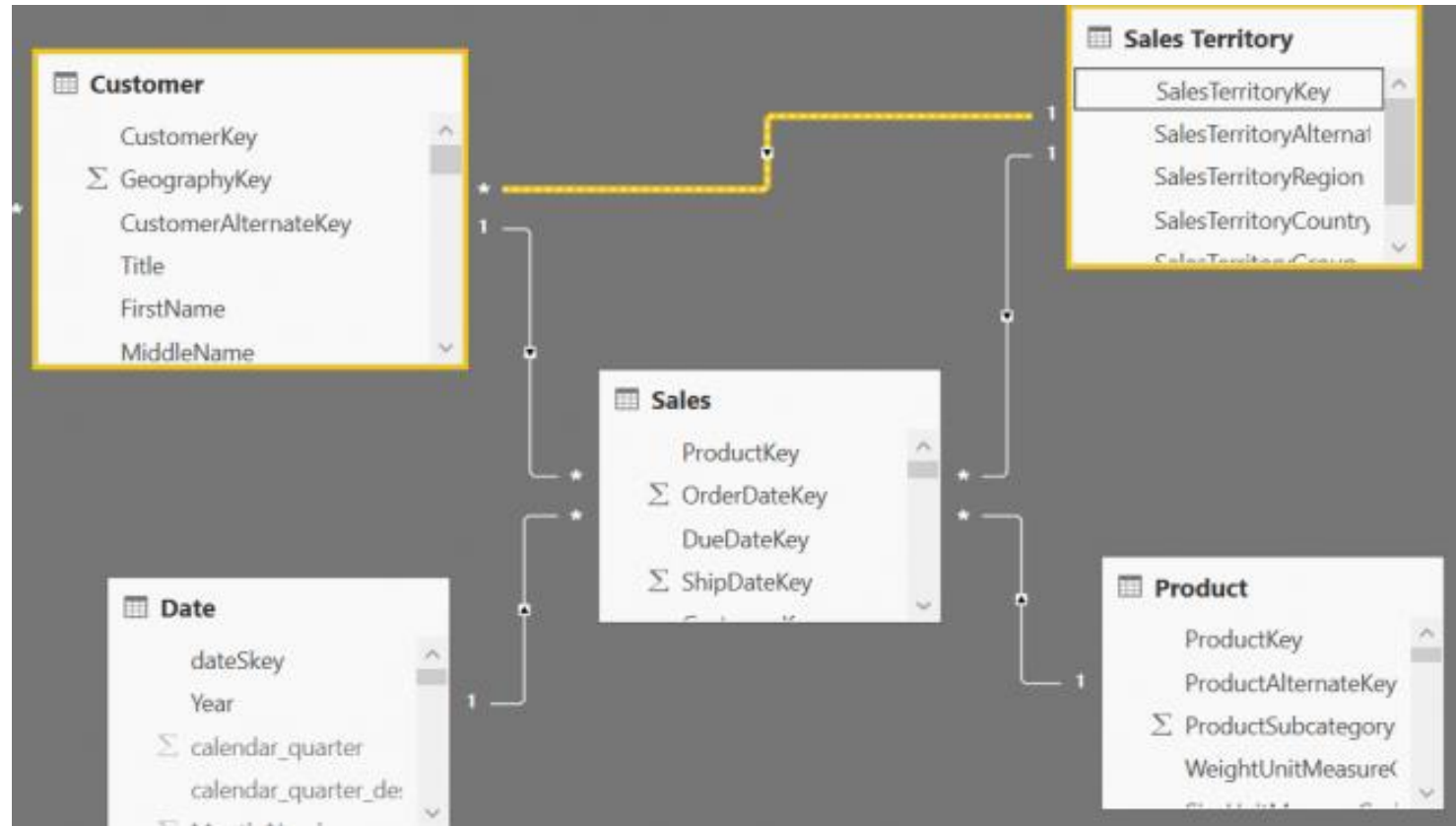# Relationships and Cardinality
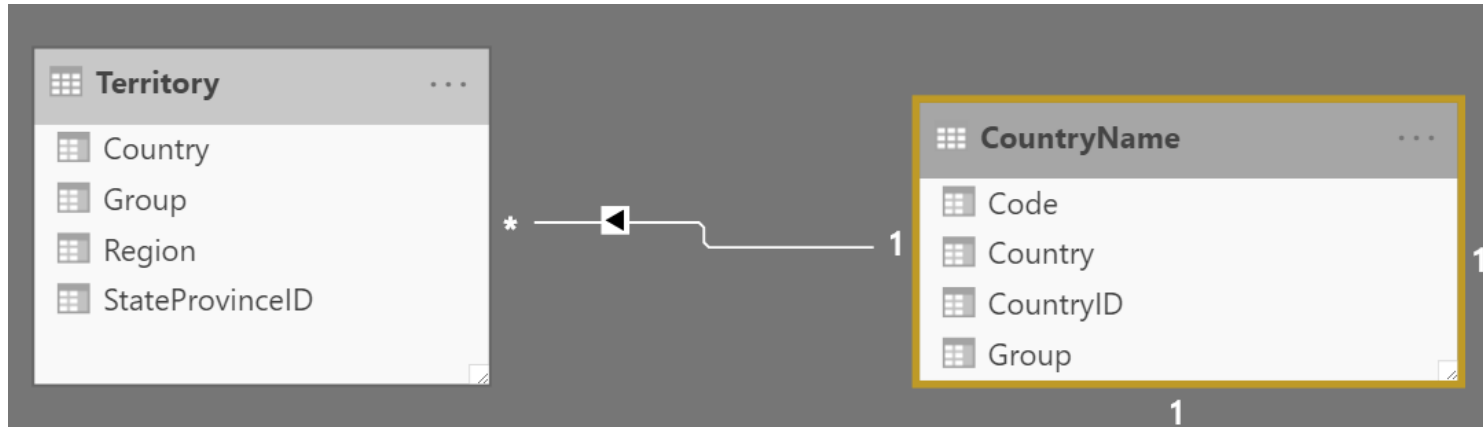
Relationship: Formed by correlating rows belonging to different tables.

Cardinality: Uniqueness of data values in a column.
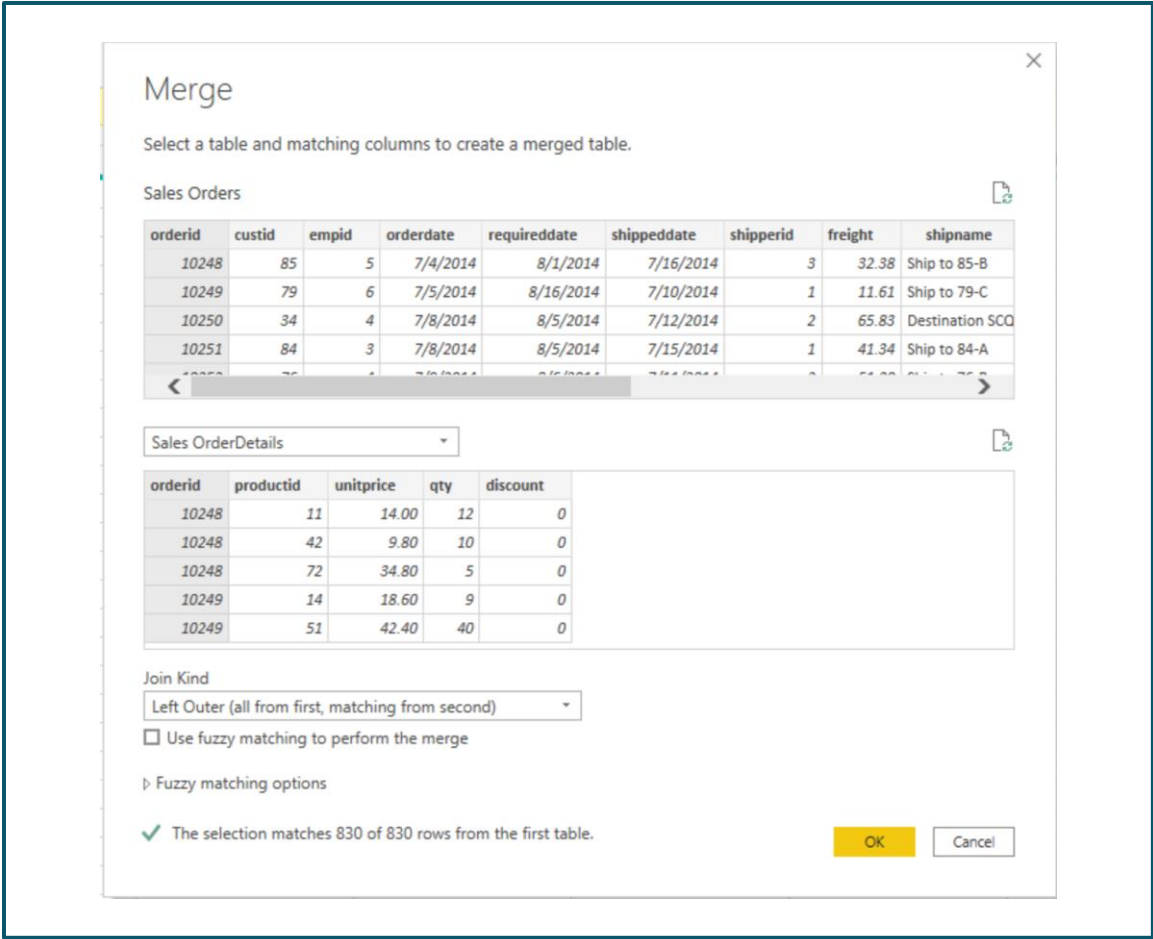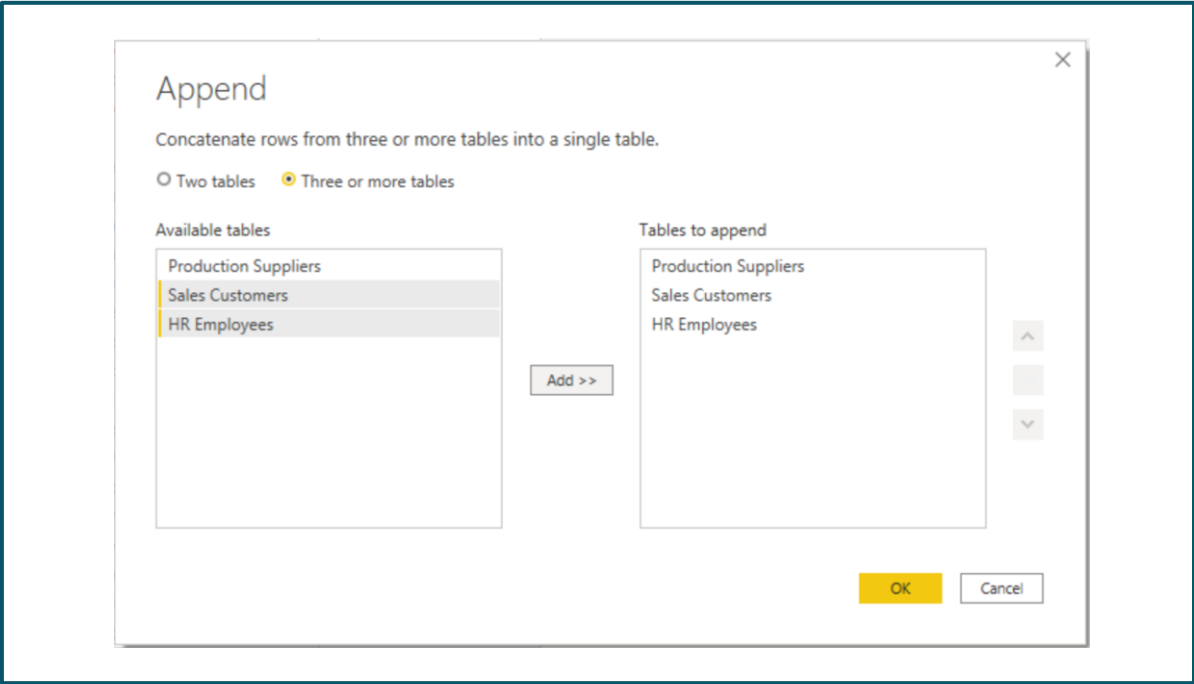
Modeling Challenges

Circular relationships and relational dependencies.

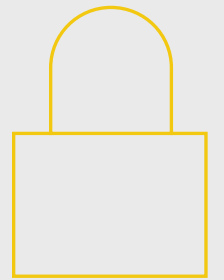# Combine Queries

Two methods for combining queries:

- Append
- Merge

Review Questions

- Q01 – What is Cardinality?

# Lesson 3: Dimensions and Hierarchies

Introduction to Dimensions and Hierarchies

	1²3 Employee ID	ᴬᴮC Employee	1²3 Manager ID	ᴬᴮC Manager
1	1010	Roy F	null	
2	1011	Pam H	1010	Roy F
3	1012	Guy L	1010	Roy F
4	1013	Roger M	1011	Pam H
5	1014	Kaylie S	1011	Pam H
6	1015	Mike O	1012	Guy L
7	1016	Rudy Q	1012	Guy L

Dimension: Store details about business entities.

Hierarchy: Organize data such that one element is ranged over other data.
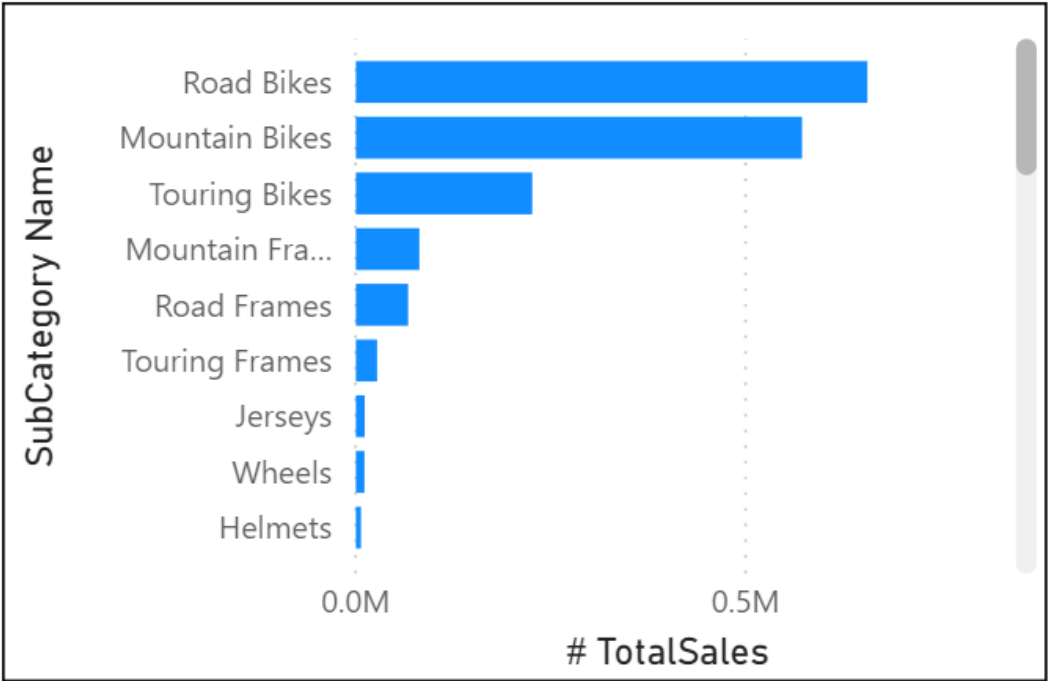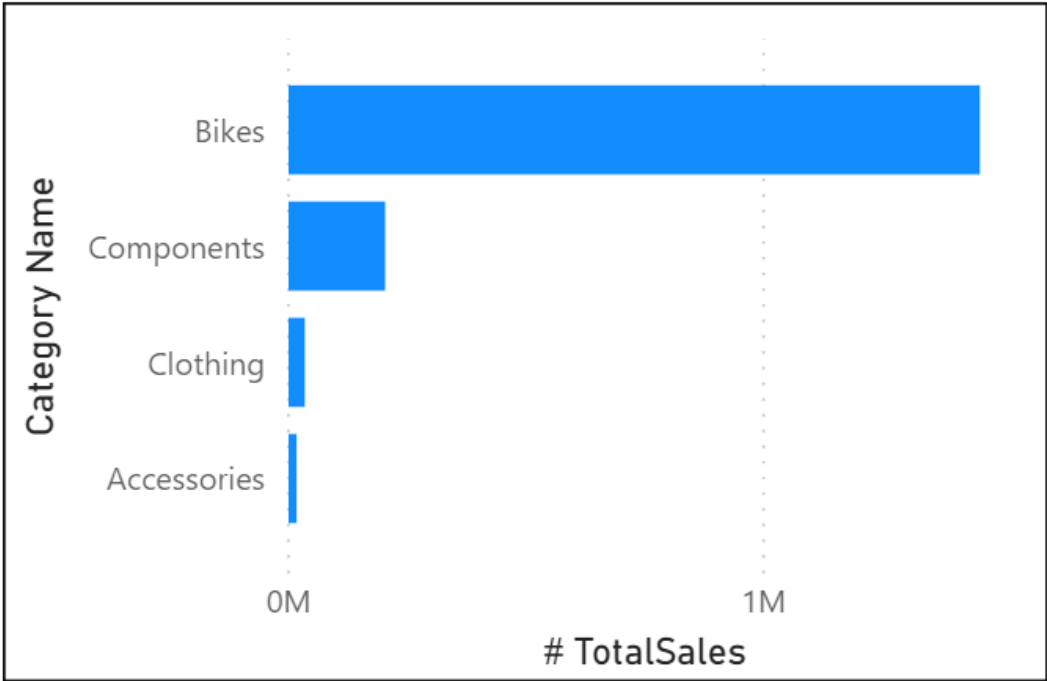
Role-playing Dimensions
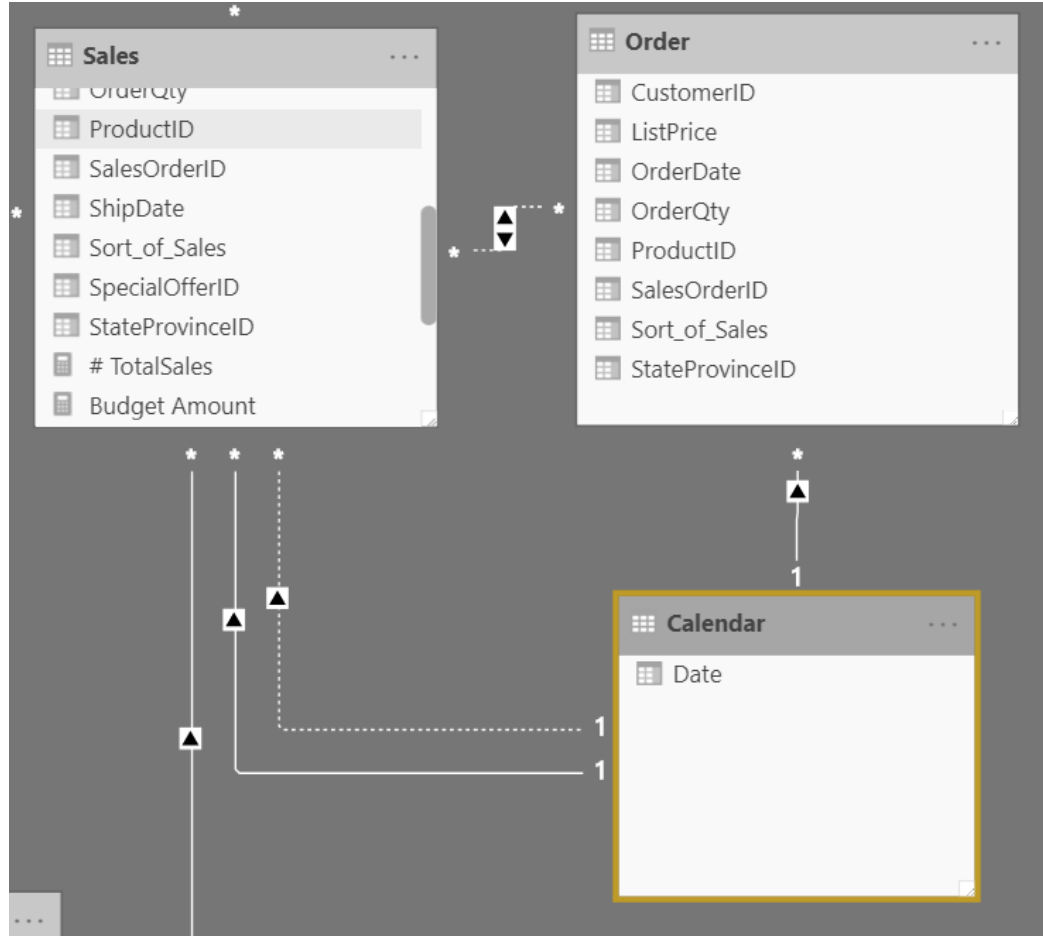
A dimension that can filter related facts differently.

Creating new Hierarchies

Causes:

Review Questions

- **Q01 – A dimension that can filter related facts differently is called what?**

  – A01 – A role-playing dimension.

- **Q02 – What type of table stores details about business entities?**

  – A02 – Dimension table.

Lab: Model Data in Power BI Desktop

Lab: Model Data in Power BI Desktop

Module Overview

We covered the following concepts:

- Data Modeling

- Working with Tables

- Dimensions and Hierarchies

References

PL-300 Design a data model in Power BI

https://docs.microsoft.com/en-us/learn/modules/design-model-power-bi/

Microsoft Power Platform