## Murach Chapter 1

# An Introduction to Relational Databases and SQL

Week 1, Lec 1, Part 2 Spring 2023

## **Key Topics**

- Basic Terms
  - Relational Database
  - Table, Column, Row, Cell
  - Primary Key(single-column/composite)
  - Foreign Key
  - Unique Key
  - Index

#### **Basic Terms**

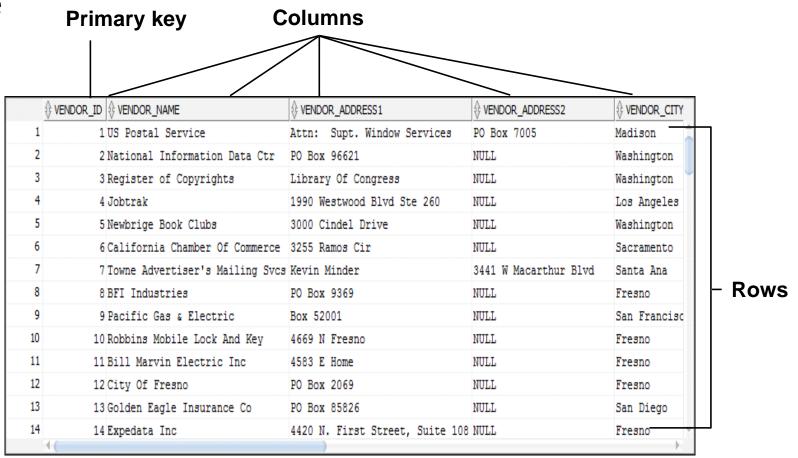
- Relational Database
  - A collection of related tables (relations)
- Table in Murach's book, table = table that meets the conditions of a relation
  - A relation, typically modelled after a real world entity
  - E.g. employee
- Column (field)
  - Some attribute of an entity, e.g. employee salary
- Row (record)
  - Set of values for an instance of an entity
  - E.g. data about Scott: his empno, salary, name, etc
- Cell
  - Intersection of a row and a column
  - Stores a single value (=> one of conditions for a table to be a relation)
  - E.g. the salary of Scott

#### **Basic Terms**

- Primary Key
  - 1 or multiple columns that uniquely identify each row in a table
  - E.g. empno in table employee;
- Composite Primary Key
  - A primary key that consists of multiple columns
- Unique Key
  - A column that is unique but not chosen as the primary key of the table
  - Also called Non-Primary Key
- Each table has only one primary key.
- Index
  - A structure created for speeding up database queries

### Vendors table in AP Database

AP – Account Payable



#### **Basic Terms**

- Foreign Key
  - Used to relate tables in a relational database
  - Consists of one or multiple columns in a table that refer to the primary key in another table
    - Refer means that values match
- Relationships between tables
  - One-to-Many
    - Most common
  - One-to-one
  - Many-to-many

## Relationship between tables Vendors & Invoices

