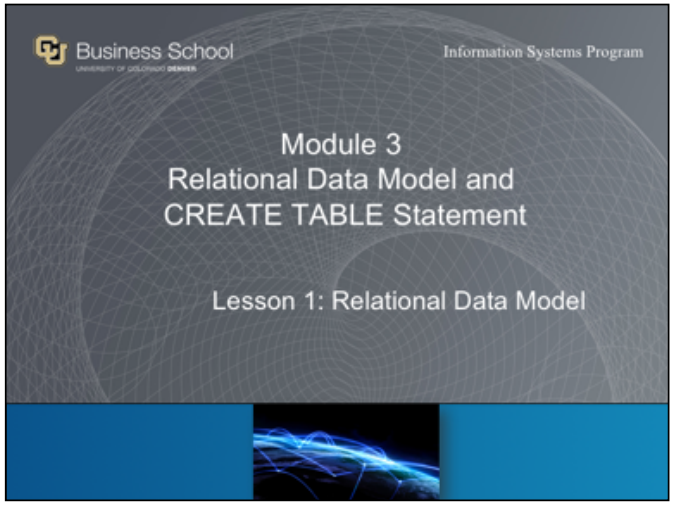


Welcome to Lesson 1 of Module 3 on the relational data model and the CREATE TABLE statement

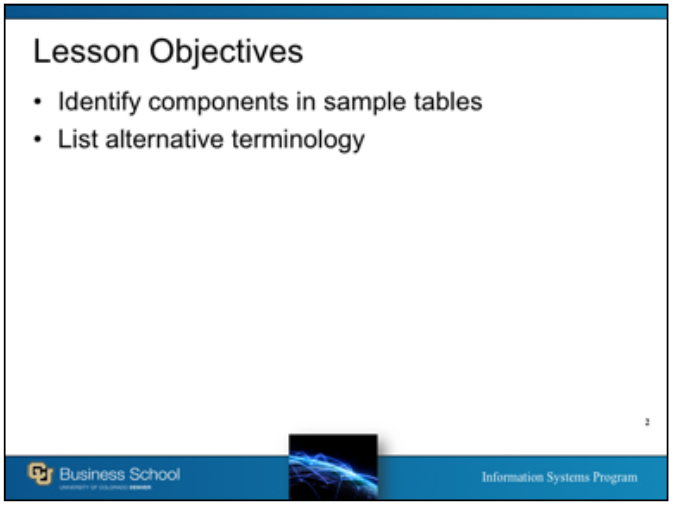
- Careful study of the relational data model
- This lesson covers examples of tables and connections among tables.

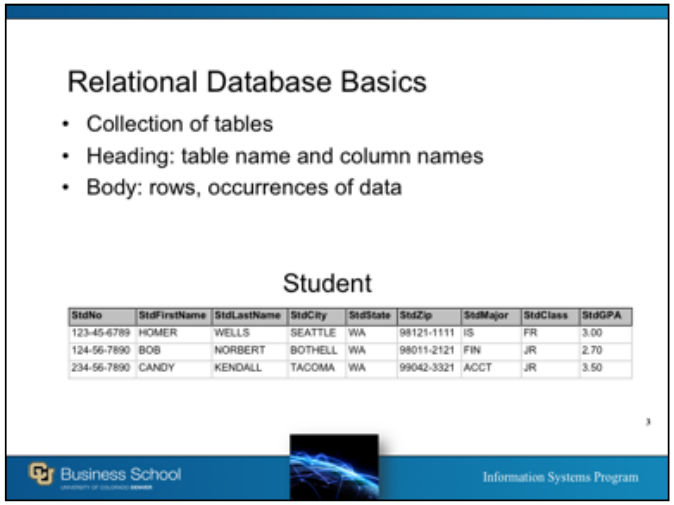
Opening question:

- Why is the relational data model commercially dominant?
- Commercial dominance by a concept or approach is very difficult but the relational data model has dominated the database industry for decades.

Relational databases are the dominant commercial standard

- Simplicity and familiarity with table manipulation
- Strong mathematical framework
- Lots of research and development



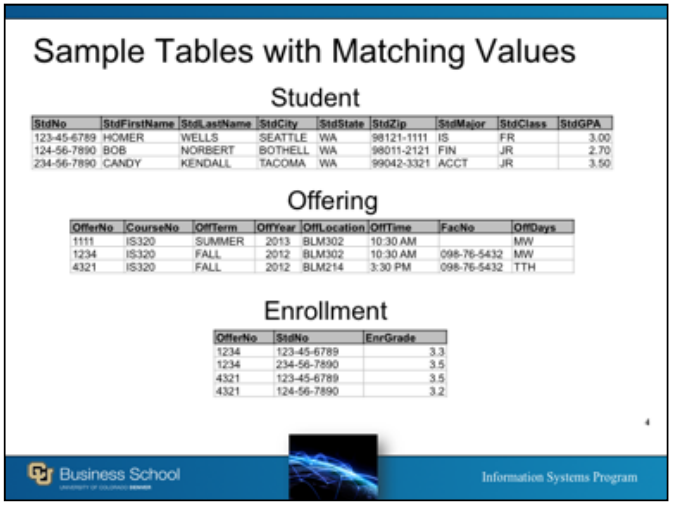


Partial Student table:

- 9 columns
- 3 rows
- Real student table: 10 to 50 columns; thousands of rows

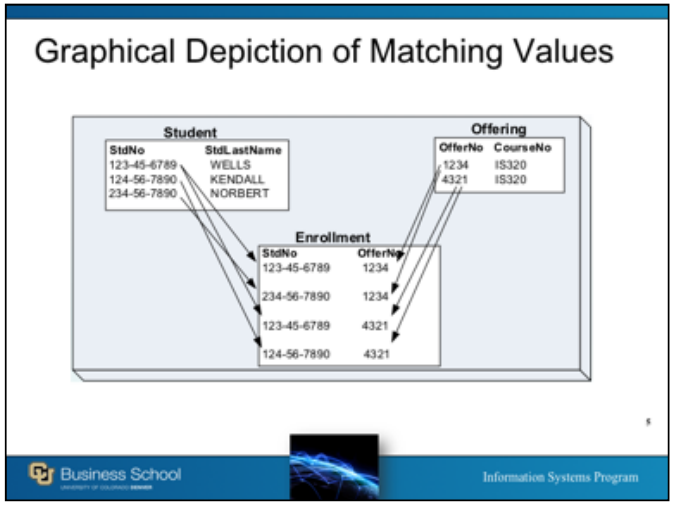
Convention:

- Table names begin with uppercase
- Mixed case for column names
- First part of column name is an abbreviation for the table name
- Upper case for data



Relationships are shown in column values.

- StdNo values in Enrollment table
- OfferNo values in Enrollment table
- FacNo values in Offering table
- CourseNo values in Offering table



Shown by matching values

- First Student row (123-45-6789) related to 1st and 3rd rows of Enrollment table
- First Offering row (1234) related to 1st two rows of Enrollment table

Combine tables using matching values

Relational databases can have many tables (hundreds)

Follow matching values to combine tables:

- Combine Student and Enrollment where StdNo matches
- Join operation

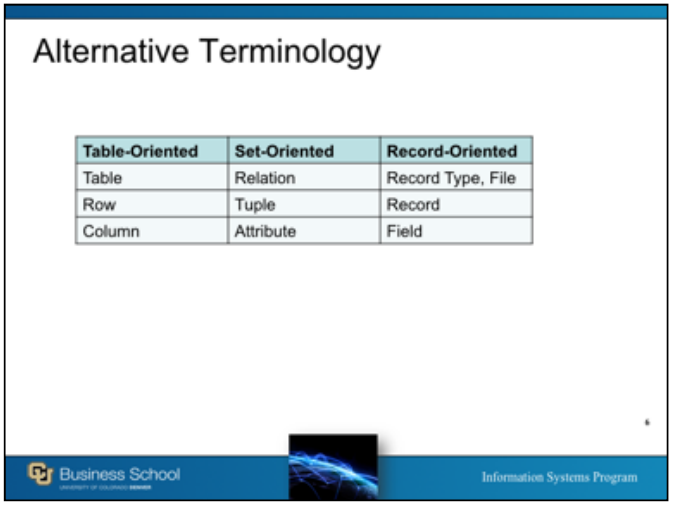
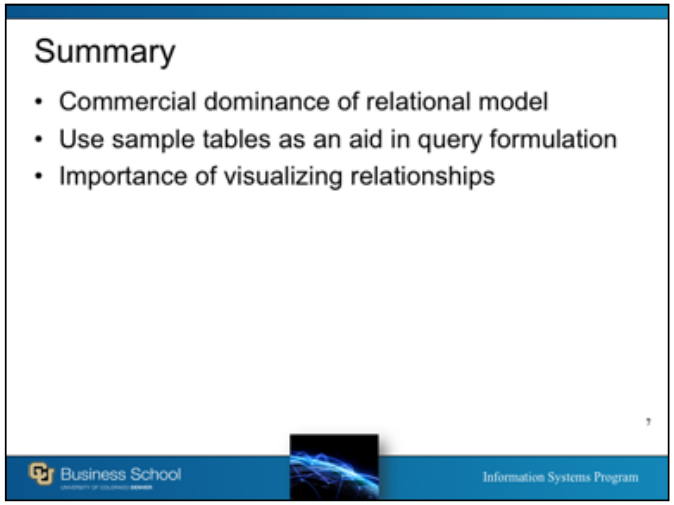


Table-oriented: familiar

Set-oriented: mathematical

Record-oriented: IS staff

Terminology is often mixed: table, record, field



Commercial dominance:

- Simple and familiar
- Theoretically sound
- Lots of R&D
- SQL standard

Sample tables

- Useful for understanding basic terminology
- Useful for query formulation especially as a novice
- Understand relationships in sample rows