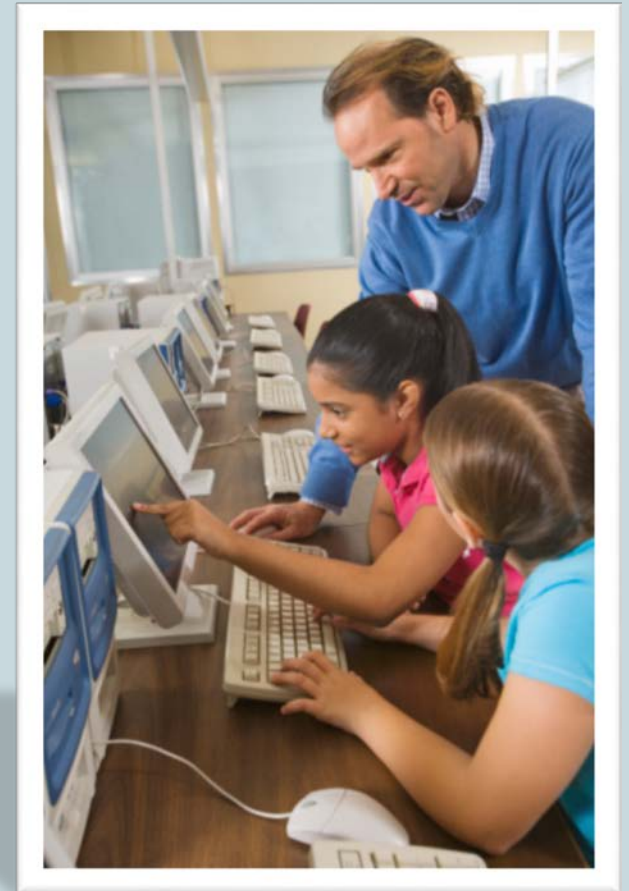




Database Design

3-4

Matrix Diagrams



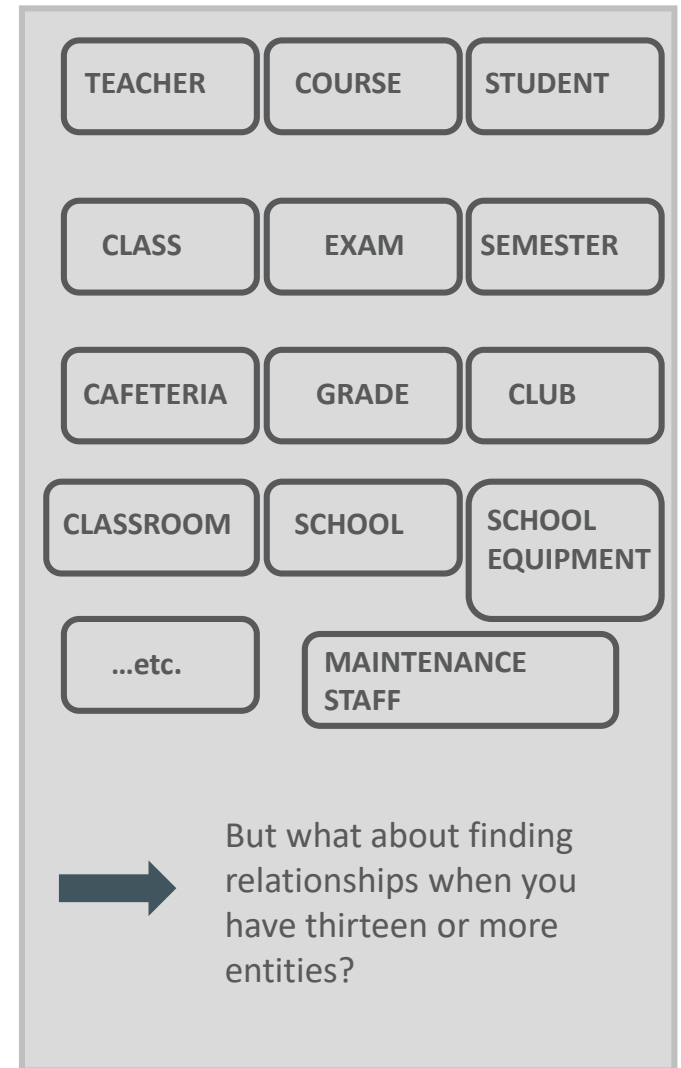
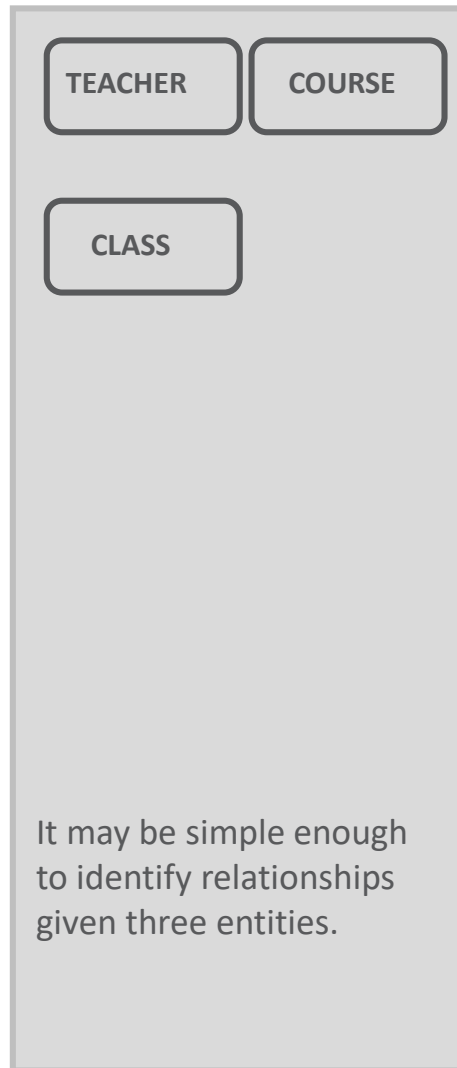
Objectives

This lesson covers the following objectives:

- Identify relationships using a matrix diagram
- Draw an ERD from a matrix diagram

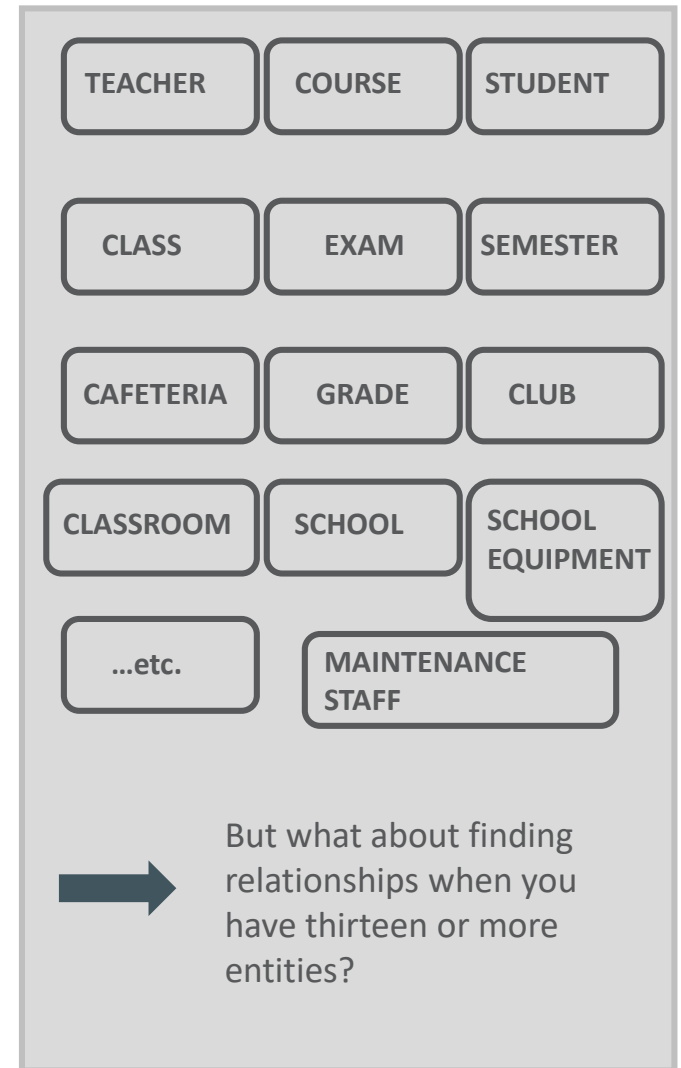
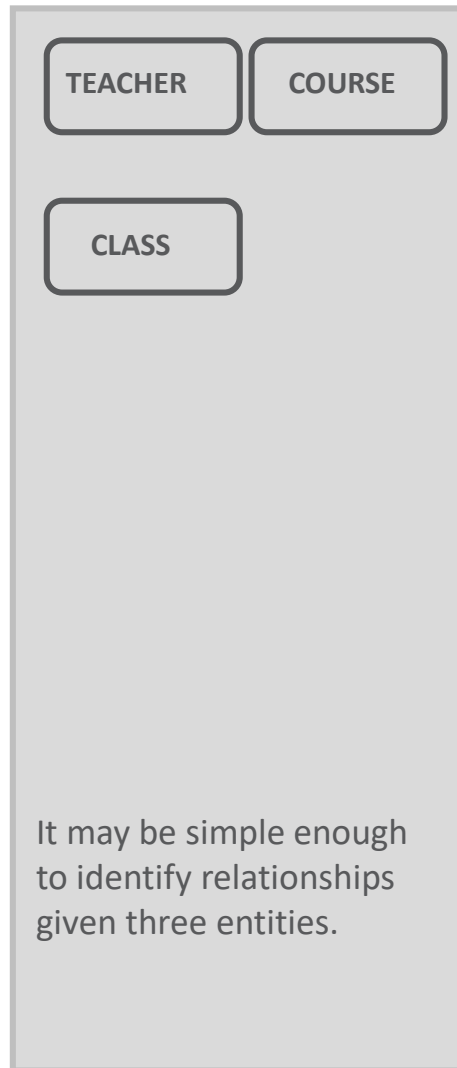
Purpose

- It is useful to know more than one way to discover relationships.



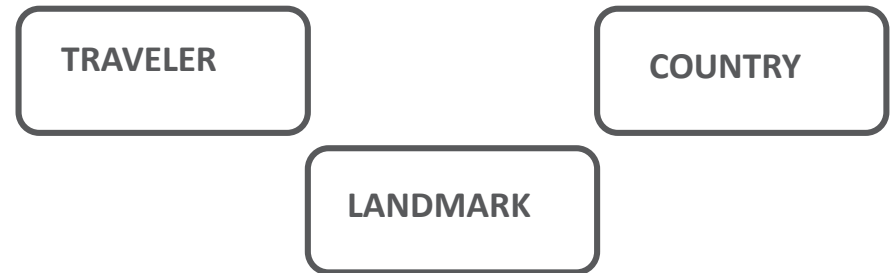
Purpose

- Using a matrix diagram, especially when you are dealing with many entities, is a good way to make sure that you haven't missed any relationships.



Business Scenario

- "I work for a travel agency. I keep a record of the countries that our customers have visited and the landmarks they've seen in each country. It helps us customize tours for them."
- We can use the matrix diagram to uncover relationships.



	TRAVELER	COUNTRY	LANDMARK
TRAVELER			
COUNTRY			
LANDMARK			

MATRIX DIAGRAM

Matrix Diagrams

- To avoid confusion, be consistent in writing to and reading from the matrix only in one direction.

	TRAVELER	COUNTRY	LANDMARK
TRAVELER	—	visit	have seen
COUNTRY	visited by	—	the location of
LANDMARK	seen by	located in	—

correct: COUNTRY visited by TRAVELER

correct: LANDMARK seen by TRAVELER

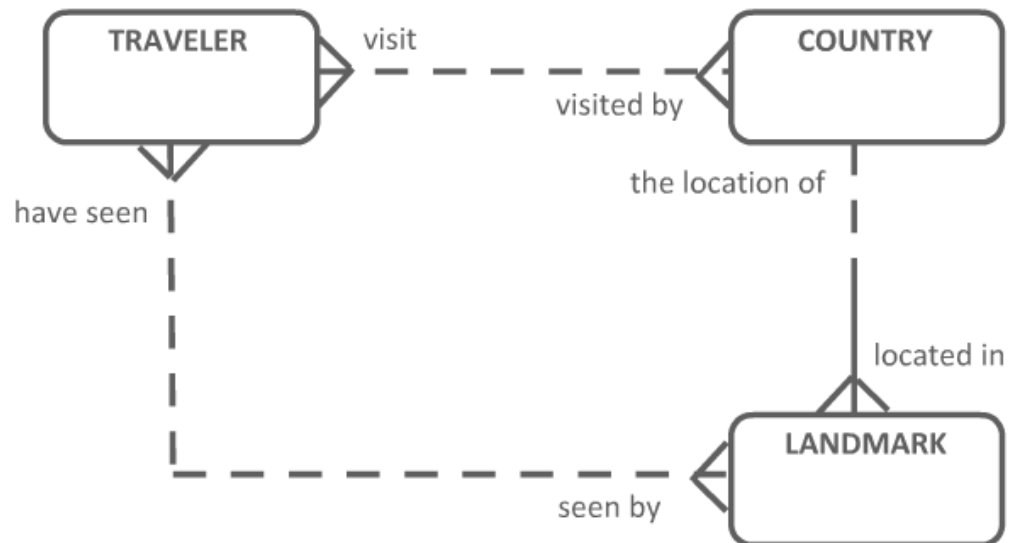
incorrect: TRAVELER visited by COUNTRY

incorrect: TRAVELER seen by LANDMARK

Matrix Diagrams

- Relationships discovered via the matrix diagram are then drawn on the ERD.
- Matrix diagrams do not show optionality and cardinality.

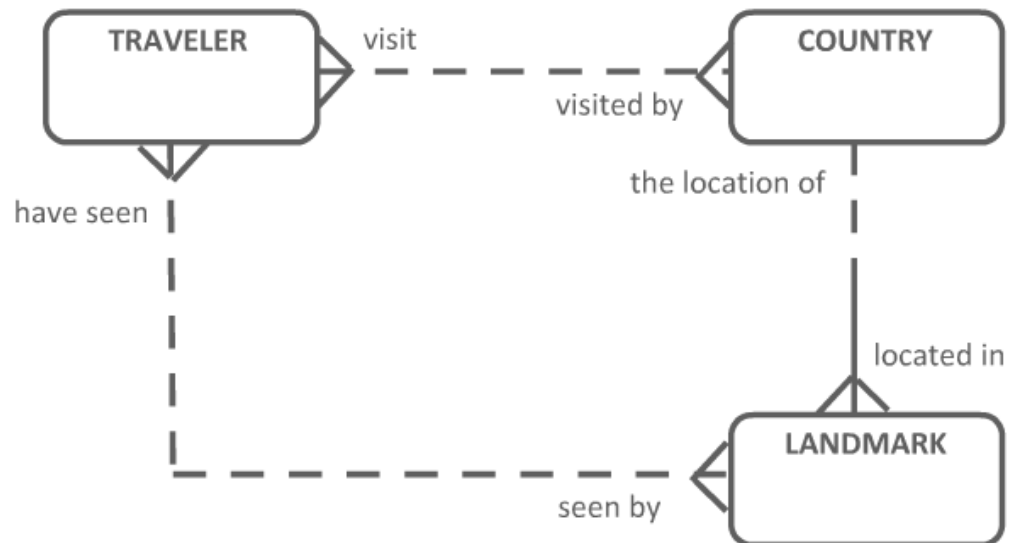
	TRAVELER	COUNTRY	LANDMARK
TRAVELER	_____	visit	have seen
COUNTRY	visited by	_____	the location of
LANDMARK	seen by	located in	_____



Matrix Diagrams

- Each COUNTRY may be visited by one or more TRAVELERS.
- Each TRAVELER may visit one or more COUNTRY.

	TRAVELER	COUNTRY	LANDMARK
TRAVELER	_____	visit	have seen
COUNTRY	visited by	_____	the location of
LANDMARK	seen by	located in	_____



Terminology

Key terms used in this lesson included:

- Matrix diagram

Summary

In this lesson, you should have learned how to:

- Identify relationships using a matrix diagram
- Draw an ERD from a matrix diagram

