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Database Foundations

2-2
Relational Databases

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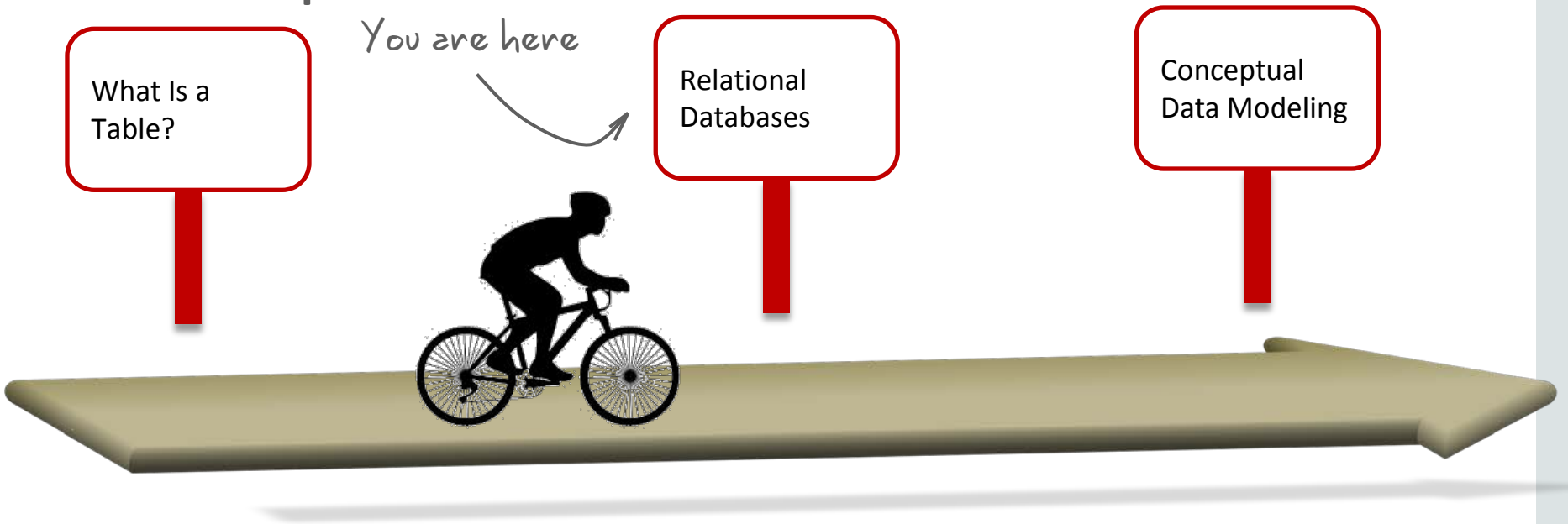
Roadmap



Objectives

This lesson covers the following objectives:

- Describe the features of a relational database
- Describe the advantages of a relational (multiple-table) database
- Define the relational tables and the key terms

Relational Databases

- A relational database presents information in tables with rows and columns.
- Each column represents a particular type of information (a field), and each row lists one record.
- The tables are then related to one another by using foreign keys.
- A foreign key is simply the primary key in a different table.

Relational Database: Example

STUDENTS

STUDENT_ID	LAST_NAME	DATE_OF_BIRTH	ADDRESS	COURSE_ID

COURSES

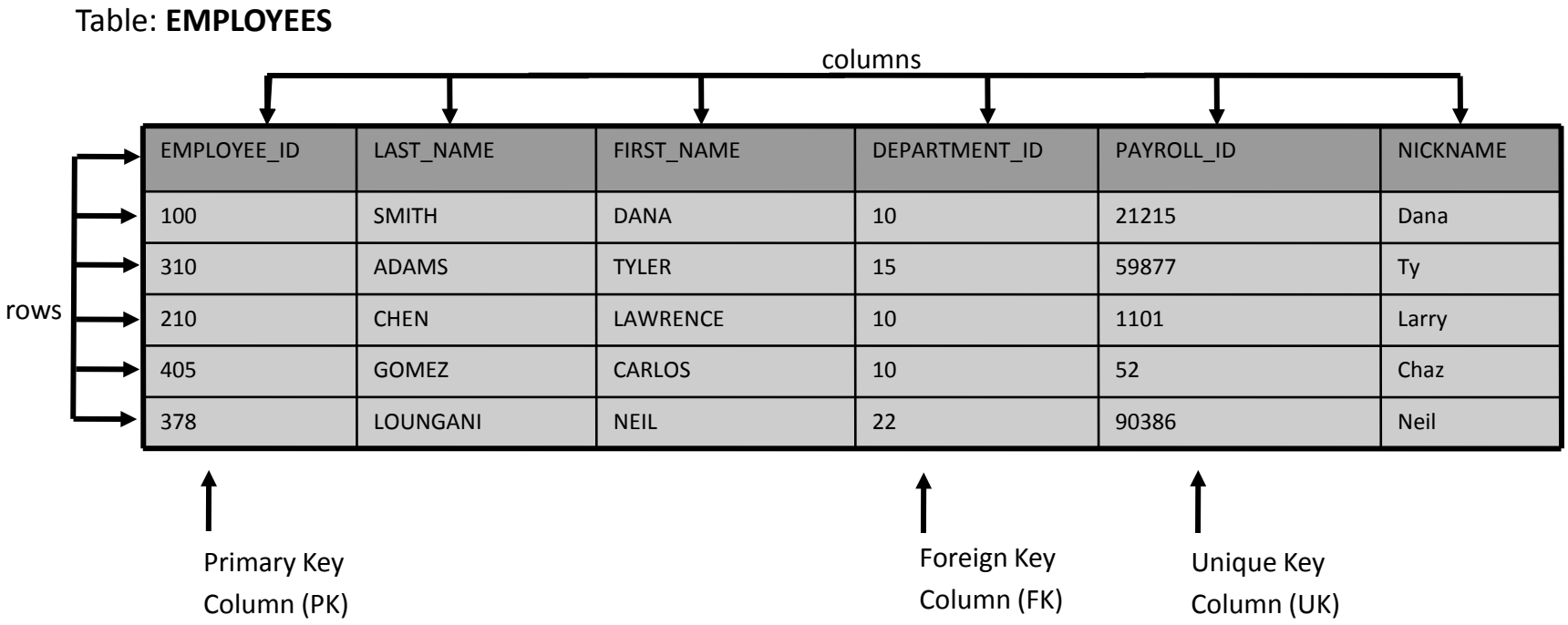
COURSE_ID	COURSE_NAME	COURSE_DURATION

Advantages of a Relational (Multiple-Table) Database

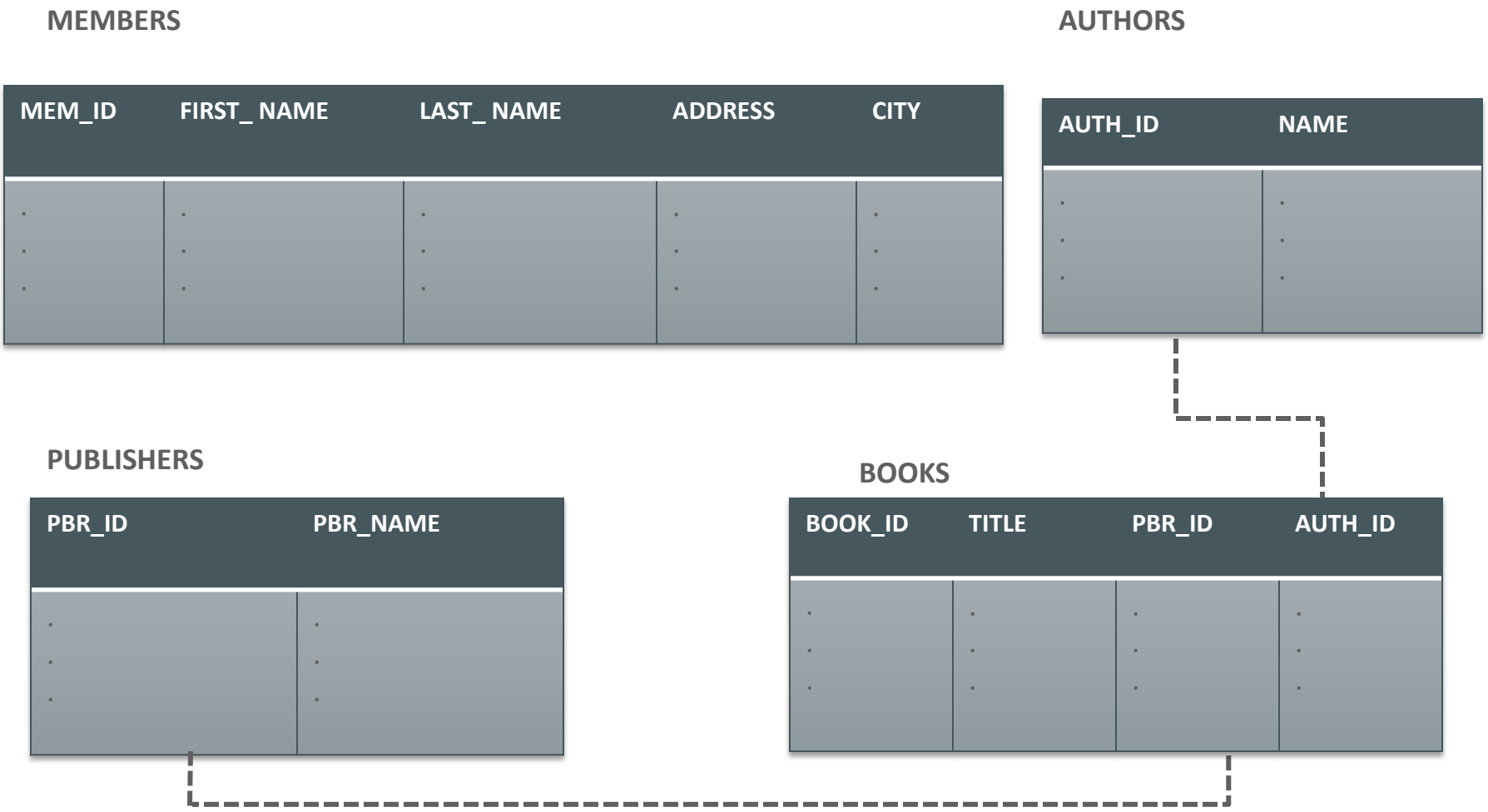
- Less redundancy
- Avoidance of inconsistency
- Efficiency
- Data integrity
- Confidentiality

Relational Tables

A table is a simple structure where data is organized and stored.



Relational Tables



Key Terms

- Column
- Primary Key
- Foreign Key
- Row
- Field

Properties of Tables

A relational database has six table properties:

- **Property 1:** Entries in columns are single values.
- **Property 2:** Entries in columns are of the same kind.
- **Property 3:** Each row is unique.
- **Property 4:** Order of columns is insignificant.
- **Property 5:** Order of rows is insignificant.
- **Property 6:** Each column has a unique name.

Summary

In this lesson, you should have learned how to:

- Describe the features of a relational database
- Describe the advantages of a relational (multiple-table) database
- Define the relational tables and the key terms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