

Lesson 6: Principles of Data Manipulation and Management

Lesson 7: Relational Algebra

- ✓ **Video:** Algebraic Optimization Overview  
6 min
- ✓ **Video:** Relational Algebra Overview  
4 min
- ✓ **Video:** Relational Algebra Operators: Union, Difference, Selection  
6 min
- ✓ **Video:** Relational Algebra Operators: Projection, Cross Product  
4 min
- ✓ **Video:** Relational Algebra Operators: Cross Product cont'd, Join  
6 min
- ✓ **Video:** Relational Algebra Operators: Outer Join  
4 min
- ▶ **Video:** Relational Algebra Operators: Theta-Join  
4 min

Lesson 8: SQL for Data Science

Lesson 9: Key Principles of Relational Databases

Assignment 2: SQL

Relational Algebra Overview

## Where we are

- Overview of Data Science
  - We found that an important aspect is Data “Munging” / Manipulation / Cleaning / Restructuring / ...
- Overview of Relational Databases
  - The original problem being addressed:
  - *physical data independence*
- Secret sauce: an *algebra* of tables
- This will come up over and over and over....

Share

0:04 / 4:18

1



Save Note



Discuss

Download



Share



English ▾

[Help Us Translate](#)

0:00

[MUSIC] So where are we now? We've given an overview of Data Science itself, and one of the things we talked about was that there's this important aspect of Data Munging, or manipulation, cleaning, restructuring and so on, that is perhaps, ill-defined, but is kinda what keeps people up at night when they're working on Data Science problems. And we also gave a Overview of Relational Databases, kinda a history of relational databases and why they came into being in the first place. And we found that the original problem being addressed was just one of physical data independence that when aspects of the data changed all the applications broke. And so you wanted to insulate applications from certain kinds of changes. And one of the tricks here, the