

Lesson 6: Principles of Data Manipulation and Management

Lesson 7: Relational Algebra

Lesson 8: SQL for Data Science

▶ **Video:** From SQL to RA
6 min

▶ **Video:** Thinking in RA: Logical Query Plans
4 min

▶ **Video:** Practical SQL: Binning Timeseries
5 min

▶ **Video:** Practical SQL: Genomic Intervals
6 min

▶ **Video:** User-Defined Functions
3 min

▶ **Video:** Support for User-Defined Functions
4 min

Lesson 9: Key Principles of Relational Databases

Assignment 2: SQL

From SQL to RA

Product(pid, name, price)
Purchase(pid, cid, store)
Customer(cid, name, city)

```
SELECT DISTINCT x.name, z.name.  
FROM Product x, Purchase y, Customer z  
WHERE x.pid = y.pid and y.cid = y.cid and  
x.price > 100 and z.city = 'Seattle'
```

▶ 🔊 0:05 / 6:11

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English ▾

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0:00 [MUSIC] So we talked about the relational algebra operators themselves.

0:10 Let's get a little bit of experience translating from SQL to relational algebra, at least in our heads. So let's see some examples of how to do this. So assume this schema with three tables.

0:25 Product, purchase, and customer. We did not talk about that in this class, but the underline here means that that's a primary key, and so every unique value of pid defines a unique people and product. Every unique value of the combination of pid and cid defines a unique purchase. And every unique value of cid defines a unique customer, also.