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Database Design Tools That Will Help You Learn SQL Faster

Have a question? Discuss this lecture in the week forums.



Interactive Transcript

English

0:03

Last video we heard about how relational databases use set theory and relational algebra to allow us to pull pretty much whatever data we want out of a relational database. In this video, we are going to talk about how you learn to tell a database what you want out of it.

0:18

The way you ask a database to give you data is to write and execute what is called a query. The language or code you use to write the queries is SQL or structured query language. SQL is used by every relational database management system, abbreviated DBMS, even if there are some slight nuanced differences across platforms.

0:39

As a data analyst, you are almost guaranteed to interact with the relational database at some point in your career, if not everyday. But even if you are interacting with databases that do not use traditional relational structures, most database management systems try really hard to create query languages that look as similar as possible to SQL. Because SQL is so intuitive and so ubiquitous in the database world.

1:00

Therefore, no matter what database platform you end up working with, it will advance your career if you learn SQL. And the more you understand about SQL truly works, the greater edge you will have in the marketplace.

1:11

I have a slightly different view of learning SQL than you will find in many of the courses out there. As a data analyst, you will be making lots of queries, but you will not be setting up or maintaining databases unless you are working in an early stage startup. Nonetheless, my experience has taught me that you will learn queries much faster and your queries will be much more efficient if you know some of the basic tools that are used to set up databases. In addition, if you know how to read the documents database engineers and managers create, your life will be much easier when you start writing queries and you'll be less likely to make certain kinds of mistakes that lead you to misinterpret your data.

1:46

So I really wanted to find ways to give students in this course exposure to the tools that are used to design a database. Fortunately, the person who wrote my favorite tools was very generously willing to share his resources with us. Perhaps not surprisingly, he also shares my view about learning SQL. Here he is. >> Hello, my name is Nenad Jukic, and I'm a Professor of Information Systems at Quinlan School of Business at Loyola University Chicago.

2:14

It is difficult to learn SQL as a pure beginner if one doesn't know some basic things about relational database model itself. The main concept in relational database model that connects tables of a concept of a foreign key. And if a person doesn't really understand why is it there, how it works, it makes learning SQL very unnatural. So the best way to learn SQL in my opinion is to first learn few basic things about database design and modeling before we start learning SQL. >> Entity-Relationship diagrams or ER diagrams are one of the database design tools that will be useful for you to understand. ER diagrams are pictures that represent how the data in a database are supposed to be connected or related to one another.

3:07

Relational schemas are another database tool you will benefit from learning how to read and understand. Relational schemas are basically maps of the database. Sometimes relational schemas are missing important information, that is contained in an ER diagram, so it is useful to practice and understand both tools.

3:24

Nenad has made a very well design online program that will allow us to practice making both ER diagrams and relational schemas. So here's what we're going to do for the rest of this week. In the next few videos, we are going to go over some practical concepts of how relational databases are organized, and go over how to make ER diagrams and relational schemas. Then Nenad will show you himself how to use the great online tool he created. After practicing with a couple assignments, you will answer some questions about the relational schema of a real life department store data set we will be using in the later weeks of the course. And you will make your own ER diagram and relational schema for the real life startup data set we will be using.

4:01

This will prepare you how to start learning how to answer business questions about those data sets next week when we start writing SQL queries. Are you excited? I hope so.

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Subtitles (English) WebVTT

Transcript (English) txt

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