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ILC Database Theory/Security

Week 10 Progress Report

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My goal is to study Database Theories and Security through the book Translucent Databases. Some additional smaller goals I am trying to accomplish are doing my work this quarter with docker containers and If time allows study a bit about document-oriented databases.

This week I practiced using the various method I’ve learned to securely store information in a database, mainly using either key-based encryption or one-way functions. I also started expanding the database I was currently using to include more tables so I can practice writing queries with more complexity. I also read chapter 8 on Synchronization which was all about using translucent databases to share information between different users. The main idea in this chapter was to use a name/password combination as the index of a table so that finding information is gated by knowing the name/password combination, which is not actually stored in the database, only the hash of it is. To synchronize this you can add additional columns to store the hash for the name/password combination of different users. The biggest downside to this method of access control is that it is not simple to take away access from users once they already have it if people use the same password, and I imagine with a larger database adding an extra column with for each users name/pass combination would be adding a lot of extra information to be stored. I wonder if this topic will be expanded in the later chapters of Translucent Databases, I’m curious what other methods there are that still make the database ‘translucent’.