Abstract: Nowadays, database systems are essential to any business managing information. For example, even web sites usually make use of databases as data repositories behind the interface. A database is necessary to provide the requested service. In addition to web applications, databases play an important role for many corporations. Indeed, databases are used to manage all the needed data in such corporations in order to achieve their business. Today database systems are concerned with the management of health data, insurance data, scientific data, legislation data, military data, human communications data, emails and tweets among other kinds of data. This demonstrates the importance databases play in our everyday life. This information should also provide services able to control access to information they handle. Indeed, even though these systems offer great benefits, users are reluctant to use such systems if their privacy is not preserved. The importance of database systems and their security at economical, scientific and societal levels has led governmental organizations to recognize the need for information security at both technological and societal levels.
In this tutorial, we are going to explore the role of formal approaches to database security.

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