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Big Data: A Transition from Conventional Databases

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Abstract: *The primary programming language created to manage data contained in database systems is called Structured Query Language (SQL). SQL was initially solely used with relational database management systems (RDBMS), but as additional categories of database systems have emerged, its use has substantially expanded. When processing Big Data, or datasets with great volume, velocity, and variety, highly distributed and scalable systems have been proven to be particularly effective at using SQL as a query language. Although conventional relational databases currently only make up a small portion of the database systems landscape, the majority of database courses that cover SQL only take traditional relational systems into account when using SQL. In this study, we suggest that SQL be taught as a general language, which can be applied to a variety of database systems, ranging from conventional RDBMSs to Big Data systems. In the context of emerging database systems like MapReduce, NoSQL, and NewSQL, this paper offers well-organized suggestions for introducing SQL. The description of a variety of course tools, such as virtual machines, sample projects, and in-class exercises, to provide hands-on experience with SQL across a wide range of contemporary database systems is a fundamental addition of this work. Descriptors for Categories and Subjects General terms for computer and information science education in K.3.2 [Computers and Education] Creating and experimenting Keywords Curriculums for databases; SQL; Query Language; Big Data 1.*

Keywords: Big Data

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