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A Framework for SQL Learning: Linking Learning Taxonomy, Cognitive Model and Cross Cutting Factors

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Abstract : Databases comprise the foundation of most software systems. System developers inevitably write code to query these databases. The de facto language for querying is SQL and this, consequently, is the default language taught by higher education institutions. There is evidence that learners find it hard to master SQL, harder than mastering other programming languages such as Java. Educators do not agree about explanations for this seeming anomaly. Further investigation may well reveal the reasons. In this paper, we report on our investigations into how novices learn SQL, the actual problems they experience when writing SQL, as well as the differences between expert and novice SQL query writers. We conclude by presenting a model of SQL learning that should inform the instructional material design process better to support the SQL learning process.

Keywords : pattern, SQL, learning, model
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