Subsumption for Semantic Query Optimization in OODB*

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Abstract

The purpose of semantic query optimization is to use semantic knowledge (e.g. integrity constraints) for transforming a query into an *equivalent* one that may be answered more efficiently than the original version. This paper proposes a general method for semantic query optimization in the framework of OODBs (Object Oriented Database Systems). The method is applicable to the class of conjunctive queries and is based on two ingredients: a description logic able to express both class descriptions and *integrity constraints rules* (IC rules) as types; *subsumption* computation between types to evaluate the logical implications expressed by IC rules.

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