Semantic Query Optimization by Subsumption in OODB*

Domenico Beneventano[◇], Sonia Bergamaschi[◇], Claudio Sartori[°]

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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 a form that may be answered more efficiently than the original version. This paper proposes a general method for semantic query optimization in the framework of Object Oriented Database Systems. The method is applicable to the class of conjunctive queries and is based on two ingredients: a formalism able to express both class descriptions and integrity constraints rules as types; *subsumption* computation between types to evaluate the logical implications expressed by integrity constraints rules.

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° Dipartimento di Elettronica, Informatica e Sistemistica, Università di Bologna, Viale Risorgimento 2,I-40136 Bologna, Italy.

◇ Dipartimento di Scienze dell'Ingegneria, Università di Modena, Via G. Campi 213/A, I-41100 Modena, Italy.

e_mail: {dbeneventano, sbergamaschi, csartori}@deis.unibo.it