DL Techniques for Intensional Query Answering in OODBs

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1 Introduction

It is well known that in general, a query issued on a database can be rewritten in many ways maintaining, as a result, the same set of items (say, records or objects, depending on the data model). Such rewriting has been devised with the main purpose of query optimization, i.e. to minimize the execution costs. Traditionally, database theory focused on algebraic rewriting, which depends only on formal properties of the data model and manipulation language. Some works introduced also the idea of semantic query optimization[10, 3, 4, 2], which rewrites queries also on the basis of semantic problem-specific knowledge, such as integrity constraints.

In this paper we exploit the idea of rewriting a query not only for the semantic optimization task, as proposed by the authors in [3, 4], but also for another query-related task: intensional query answering. In particular, we focus on Object Oriented Databases and give a general definition of *semantic transformation* and of *semantic expansion* of a query. Then we will show how this concepts can be exploited in intensional query answering.

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