

数据库、信号与信息处理

函数依赖对商覆盖立方体生成效率的影响

彭湘凯¹, 陈富强^{1, 2}

1. 广东技术师范学院, 广州 510665

2. 华南理工大学 计算机科学与工程学院, 广州 510641

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摘要 提出一种新的商覆盖立方体生成算法DDFS。指出在基本表维属性之间可能存在函数依赖; 分析了这种函数依赖对DFS算法的影响; 按照决定子在前的原则调整了DFS算法对基本表进行水平分割时所依据的维属性的顺序; 对于存在函数依赖的维属性对, 节省了判断是否存在类函数依赖的操作。采用weather数据集进行的实验结果表明, 采用DDFS计算商覆盖立方体所需时间仅为采用DFS算法时的76%。得出DDFS较之DFS可以缩短商覆盖立方体生成时间。

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Computing cover quotient cube considering functional dependency in base tables

PENG Xiang-kai¹, CHEN Fu-qiang^{1, 2}

1. Guangdong Polytechnic Normal University, Guangzhou 510665, China

2. School of Computer Science & Engineering, South China University of Technology, Guangzhou 510641, China

Abstract

This paper proposes a new algorithm DDFS to compute cover quotient cube. Functional dependency between base attributes are considered to improve the efficiency of computing. When the base table is partitioned with a particular attribute order, the attribute functionally depended is considered with a priority. For the attributes pair where there is a functional dependency, the cost of finding the congeneric functional dependency is retrenched. Experimental result on the dataset weather shows that the computing time associated with DDFS is only 76% of that with DFS. There is a conclusion that DDFS can shorten the time of computing cover quotient cube, compared with DFS.

Key words [data warehouse](#) [cover quotient cube](#) [functional dependency](#) [Deep First Search \(DFS\)](#)

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通讯作者 彭湘凯 paulpeng@163.net

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