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Paper # 10 (Download paper of type application/pdf, 1742376 bytes)	
Title:	Access Path Selection in a Relational Database Management
Abstract:	

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Provide a short summary of the paper	This paper presents methods of selecting access paths to retrieve tuples from disk. The paper begins with a description of the steps that make up the query processing algorithm (i.e. parsing, optimization, generation and execution). The authors provide a brief overview of System R as well. The authors next turn their attention to the Research Storage System (RSS) that is responsible for storing all data in System R. The physical layout of tuples on disk is discussed, as well as an overview of the access methods that are available to get tuples from disk. Tuples may be accessed either with a segment scan or with an index scan. Segment scans access data tuples in the order they appear on disk. Index scans access data tuples in the order they appear in the index (indecies can be on any column of a table). The authors present the notion of a clustered index, as well as a description of a "search argument" analogous to a select operation. The authors next present a method for estimating the cost of accessing data from a disk. As well, the cardinality statistics as well as formulas for selectivities are presented. Selectivities are the fraction of tuples that are predicted to satisfy the search argument. As well, the idea of an interesting order is presented. An order is interesting if it is required for an order or gorup by statement. Thus, access paths that provide tuples in this order are useful to reduce cost further up the processing tree. The discussion then turns to processing and computation of join costs. Methods of performing joins are presented, along with a cost model for determining in which order joins are to be performed. Next, the authors present costing formulas of the various join operations as well as an example costing of the various access plans available.

	The paper concludes with a discussion of costing for nested queries, as well as a summary of the paper contents.
What is the strength of the paper? (1-3 sentences)	This paper presents cost models for the various operations that may be performed with the SQL. These cost models can be incorporated into query optimizers to help determine which query plan in the plan space should be accepted.
What is the weakness of the paper? (1-3 sentences)	This paper does not discuss how the authors derived their equations.
Your qualifications to review this paper	I know the material, but am not an expert
Writing Quality	Good
Relevance to query processing?	The paper is foundational to query processing
Experimental Methodology	**Unacceptable**
Novelty of paper	This is very novel
Overall paper merit	**This is spot on relevant query processing, and a novel or new contribution to boot. Everyone should read this paper.**
In your opinion, will this paper be important over time?	Excellent
Provide additional detailed comments to the author	Your explanation of the cost models for various relational operators is fantastic. However, I would have appreciated a small discussion of how your formulas were derived. Overall, your writing style is clear and at a technical level appropriate for readers of many levels. There were very few spelling and grammar mistakes, making this paper easy to read and follow.
Additional comments to PC (not seen by author)	**No additional comments**

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