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Paper # 3 (Download paper of type application/pdf, 1698248 bytes)	
Title:	E.F. Codd
Abstract:	

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Attribute	Value
Are you finished with this review?	Finalize, I am done editing
Provide a short summary of the paper	This paper begins with an overview of the state of database management systems. The author outlines the state of the art in network modeling of data, and discusses three dependencies (indexing, ordering and access path) that need to be removed from systems in order to provide better data independence. The author then discusses the relational data model in depth. The discussion begins with a presentation of the notion of a relation, and the five properties that each n-ary relation has (i.e. n-tuple, distinct rows, etc.). The notion of a relationship between relations is then presented. The author then moves to present the idea of a primary key, foreign key, simple (column) and non-simple (relation) domains. After discussing the fundamentals of the relational data model, the author turns to a presentation of normal form. The normal (simple) form of a relation is a two-dimensional table of column values. Some relations contain non-simple domains and are thus, not "normal". They can be made normal through a normalization process. This process is described as augmenting the primary key of children relations in a tree structure with the primary key of their parent, then removing the node from the tree. The author finishes this section by presenting a method of notation for relation columns (i.e. R.a means column a of relation R). The paper next discusses the named set (the set of created relations) and the expressible set (the set of relations, logical connectives, etc.). The author presents some of the challenges associated with designing an expressible set. The next section presents the fundamental operations that may be performed on relations: permutation, projection, join, composition and restriction. Permutation is a rearrangement of the order of columns of a relation. Projection is the removal of several columns for presentation to the user. Join is the concatenation of the tuples of two relations that have a column value in common. Restriction is the removal of rows from a relation R to form

	a new relation with a subset of the tuples of R. The author closes with a definition of redundancy (strong and weak) and consistency. A short summary of presented concepts is provided.
What is the strength of the paper? (1-3 sentences)	This paper presents an excellent overview of a new model for representing and manipulating data in a database system. A strong set of operations that may be performed on data is also presented, providing readers with a way to use the new model
What is the weakness of the paper? (1-3 sentences)	Some sections (particularly sections 1.6, 2.2 and 2.3) are very wordy and difficult to understand. Also, some presented figures are not explained, and the data contained in them is not self explanatory. Further, a comparison with advantages and disadvantages of this and other systems is missing.
Your qualifications to review this paper	I know the material, but am not an expert
Writing Quality	Average
Relevance to query processing?	The paper is foundational to query processing
Experimental Methodology	**Average**
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	This paper presents a very novel model for viewing data contained in a database. The model is outlined quite well, and operations that can be performed on data are presented to allow the reader to find some use for the new data model. However, there are a few problems with the paper. -The paper, while presenting very novel concepts, does so in a confusing manner. Some more effort should have been spent presenting the concepts in a way that is easier to understand. -There is no comparison of the advantages of this model over other data models. One would think this would be necessary to convince readers to start using it. -Some figures are not well explained, and the information contained within them is not self-explanatory. For example, there are no data types presented with figure 1, and no semantics given to the values in the columns.
Additional comments to PC (not seen by author)	**Although there are a few problems with this paper (i.e. tough to understand in places, missing comparisons), I do not believe they are enough to warrant rejection of this paper. It presents a novel concept that is sure to change the way data is modeled and accessed in a database system.**

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