Database Topics

The Relational Model of Data and its associated Data Manipulation Languages contained no provision for handling sets of tuples. Discuss the extent to which the SQL GROUP BY clause overcomes this weakness. [4 marks]

The Nested Relational Model attacks the problem by extending the Data Definition Language that specifies a relational schema. Describe the extension, and explain with the aid of examples how it enables both sets and compound values to be represented. [7 marks]

Explain how aggregates are handled in the Functional Data Model and the Data Language DAPLEX. [6 marks]

In what way can the purging of duplicates cause problems when evaluating functions defined over sets? How does DAPLEX allow the programmer to retain duplicates when they are needed? [3 marks]