

MH Software, Inc.

SQL Test

The purpose of this test is to assess your general knowledge of SQL and database concepts. Please don't worry about a particular kind of syntax for a particular SQL Engine. Focus on getting the data required. The table shown below depicts a typical database with 4 tables in it. The questions on this test are based on these database structures. As a warning, some of these questions are extremely hard. Please do the best you can and answer as many questions as you can. The test is solely to give us an idea on your level of SQL expertise.

Good Luck!

Customer	Invoice	LineItem	Product
Customer_ID (PK) Int Name Address City State Zip Phone Fax	Invoice_No (PK) Int Customer_ID (FK) Invoice_Date SubTotal Tax Shipping Total	Invoice_No LineItem_No Part_No (FK) Qty Price Ext_Price	Part_No (PK) Int Description Cost Qty_OH Price

- 1) Strictly speaking, the Invoice table contains two fields it shouldn't. Identify the unnecessary fields.
- 2) Write an SQL Statement to list all customers sorted by name.
- 3) Marketing wants to target computer companies for a direct mailing. Write a query that lists all companies with the words "Computer" or "Software" in their name. Assume the database is not case-sensitive for string comparisons.
- 4) Write an SQL Statement to list all invoices for customers who are located in the state of Colorado (CO). Required output fields are: Customer ID, Customer Name, Invoice No, Sub-Total, Total. Sort the results by City and then Zip code.

- 9) Referential integrity constraints were accidentally destroyed for the relationship between the LineItem table and the Product table; as a result, parts were deleted from the product table that should not have been. Write a query that will list the distinct part numbers in the LineItem table that have no corresponding entry in the Product table.
- 10) Research has determined that when product 1234 and 2345 are shipped together, product 2345 loses its potency. Write an SQL statement that lists all invoices that have both part numbers on the same invoice.
- 11) Because of poor data entry policies there are a lot of duplicate customers in the database. Write a query that will list all customers where there exists another customer with the same phone number. Displayed fields should be: Customer Name, City, State, Phone, DupeCustomer Name, DupeCustomer City, DupeCustomer State, DupeCustomer Phone.