Homework 3

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Graders:

Rohit Shivaji Bhangale
rsb432@nyu.edu

Tarang Dawer
td1098@nyu.edu

Instructions

1. Please follow the instructions for the homework below exactly.
2. If you have any questions regarding the homeworks, please email one or both of the graders for the course. Their names and email addresses are listed above as well as on the course website. They are not authorized to change the homework in any way without checking with me first, but they are there to help you if you need it, including to meet in person by appointment.
3. Submit your homework electronically to NYU classes by the due date and time. Please refer to the instructions uploaded to NYU classes on how to access and use MySQL in the computer labs. Your SQL code *must* execute correctly on the MySQL version that is installed in the labs. While you may do your work anywhere you like, if you don't verify that it works in the labs, it's very likely that it doesn't and thus will be considered incorrect. Thus it's *highly recommended* to do the homework in the NYU labs (even if only by ssh).
4. Students are required to do their own work and turn in their own assignments.
5. Be sure to follow the academic integrity rules linked to on the course website.

Assignments

1. **Instructions**:

   First review the instruction about how to use MySQL we uploaded before in NYUClass resources. Pay attention to how to execute SQL scripts, and how to output your results to a file.

   Then look at the database depicted in Homework03Relation.pdf. It describes tables for Company, Shipper, Customer, Vendor, Warehouse, Product, Stored, Orders, ProductUsage, Item, and Contains. The tables are almost the same as your solution to Homework 2, except for the definition of Shipment Payment in question (h).

   Please also read the script Homework03Script.sql carefully. It defines and creates the sample database and has placeholders for putting in your solutions. You need to produce the queries in part 3 and put your solutions in Homework03Script.sql.

   For each query of Part 3, *unless stated otherwise*,
   a. Sort the results in ascending order
   b. Remove duplicates from the answer

   Thus, for example, assuming you are going to select a and b, you should actually use:

   SELECT DISTINCT a, b …
   ORDER BY a ASC, b ASC;

   You may use intermediate tables while producing your answers. In order to run your queries without getting errors, please use TEMP1, TEMP2... as your intermediate table names. The graders will explicitly DROP them before your queries so that their old values, if any, will not create problems.

   After filling your solutions in Homework03Script.sql, you need then run your script on MySQL using the instructions on how to pipe the output into a file. You should name this output file Homework03Spool.txt, and you will need to hand in both this output file and your SQL script.

2. **Files Including in this Homework:**
   a. This file: Homework03.pdf
   b. Homework03Relation.pdf, a Visio implementation of the database.
   c. Homework03Script.sql, a script that will produce the databse in MySQL and also conatins placeholders to put your solutions to Part 3.

3. **Queries:**

   Produce queries for the following questions and put your answers in Homework03Script.sql.

   a. Produce table ANSWER01 (PRODUCTNAME, PRODUCTID) which contains all products that can not be made by VENDOR.

   b. Produce table ANSWER02 (EIN, NAME) which contains all companies that are not in SHIPPER, CUSTOMER and VENDOR.

   c. Produce table ANSWER03 (AVERAGE_PRICE) which contains the average price of the products that are heavier than 10 LB.

   d. Produce table ANSWER04 (CUSTOMER_NAME, CREDIT_RATING, PRODUCT_NAME) which contains all the customers and the products they ordered.

   e. Produce table ANSWER05 (SHIPPER_NAME, SHIPPER_EIN, PRICE_LB) that contains all SHIPPERs that have more than 2 warehouse in name decreasing order.

   f. Produce the table ANSWER06 (PRODUCT_1, PRODUCT_2) that contains all pair of products that i. at least one usagevalue of the first product is larger than at least one usagevalue of the second product, and ii). the price of the first product is smaller than the second product's.

   g. Produce the table ANSWER07 (CUSTOMER_EIN, CUSTOMER_NAME) that contains all CUSTOMERs for whom the products they ordered include at least all the products that IBM ordered, while not including IBM itself.

   h. Produce the table ANSWER08 (PRODUCT_NAME, PRICE, ITEMSIZE) which contains the product whose corresponding item size is the maxnimum among all items.

   i. Produce the table ANSWER09 (CUSTOMER_NAME, SHIPMENT_PRICE) which contains all customer companies' name and the total shipment price they need to pay SHIPPERS, in descending order by SHIPMENT PRICE (please carefully read the definition of shipment payment in Homework03Relation.pdf file).

4. **What to Hand In:**

   A file named YourNNumber.zip containing:

a. Homework03Script.sql
b. Homework03Spool.txt