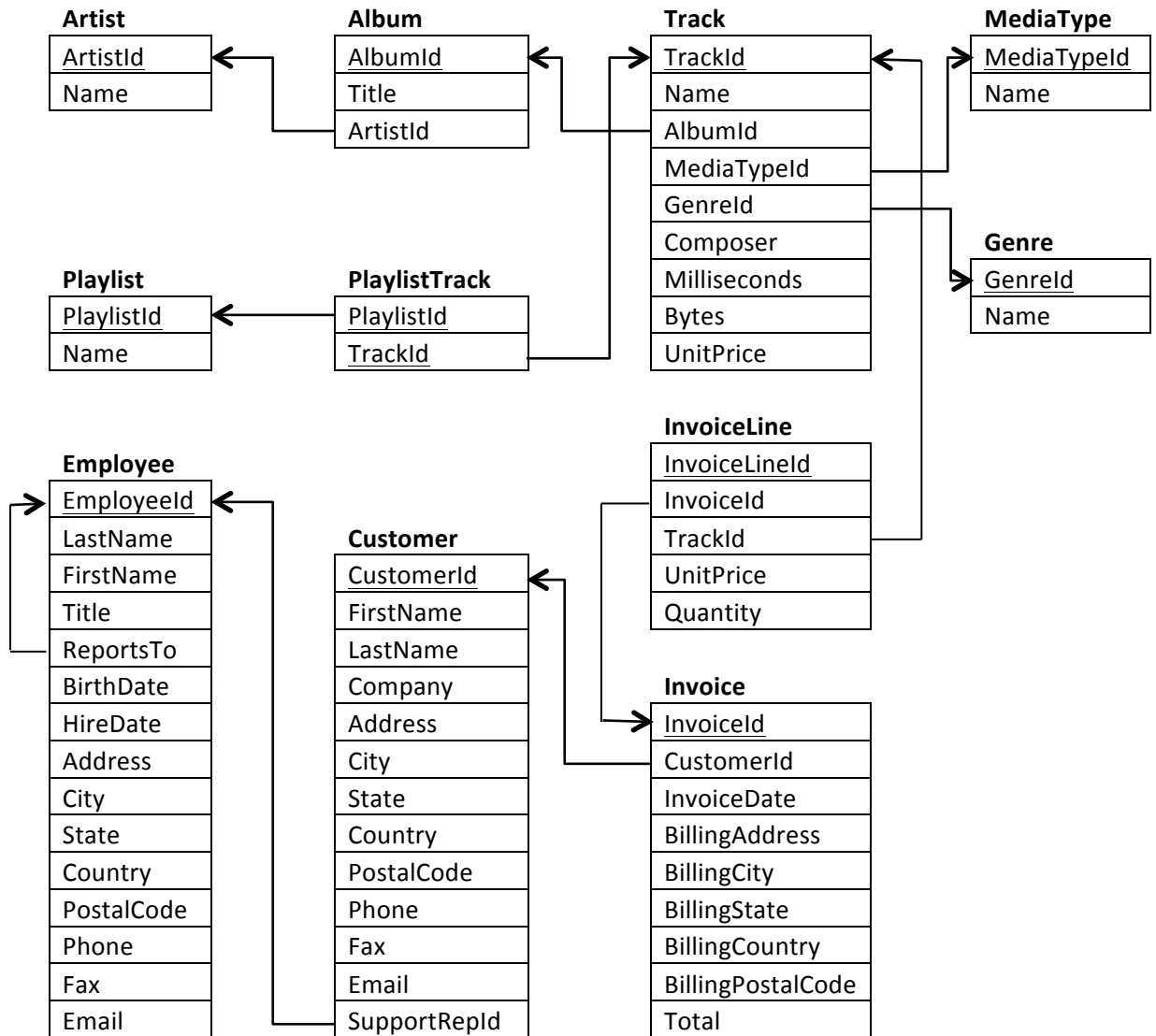


Write SQL queries to answer the following:

- 1- What are the names of the customers who have a balance that is greater than \$9000 and are in the "HOUSEHOLD" market segment?
- 2- Which parts are supplied by at least 1 supplier from the region "MIDDLE EAST"? Include the part name in your answer along with the part key. Eliminate any duplicates and sort your answer based on the part key.
- 3- How many distinct parts are supplied by European suppliers?
- 4- Which parts are not supplied by any supplier from EUROPE? Include the part name in your answer.
- 5- Which customers ordered parts ONLY from suppliers in the same region? Include the customer name, phone and region in your answer, and remove any duplicates.
- 6- What is the highest extended price for parts that had a discount larger than the tax when ordered?
- 7- The number of orders that had **all** of their items received in at most 2 weeks of shipment.
HINT1: avoid counting duplicates.
HINT2: In SQL Server, you can compute the date difference with the DATEDIFF() function. It takes 3 parameters: unit, start date, end date.
For example, SELECT DATEDIFF(day, '2013-09-16', '2013-09-23') returns 7 as the answer. You can put fields in the 2nd and 3rd argument.
- 8- The number of (distinct) customers who did not order any part that has some American supplier.
- 9- Which nation does the customer with the highest balance come from? HINT: you can find the maximum value with a simple nested select query.
- 10- List the names of the countries where some parts took more than 29 days to ship, despite being supplied from a supplier to a customer in this same country.

PART II: The CHINOOK database:

The Chinook Database is about an imaginary video and music store. Each track is stored using one of the digital formats and has a genre. The store has also some playlists, where a single track can be part of several playlists. Just like TPC-H, orders are recorded for customers, but are called invoices. LINEITEM is replaced by INVOICELINE. Every customer is assigned a support employee, and Employees report to other employees.



Write SQL queries to answer the following:

- 11- Which artists did not make any albums at all? Include their names in your answer.
- 12- Which artists did not record any tracks of the Latin genre?
- 13- Which *video* track has the longest length?

14- Find the names of customers who live in the same city as the top employee (The one not managed by anyone).

15- Find the managers of employees supporting Brazilian customers.

16- How many *audio* tracks in total were bought by German customers? And what was the total price paid for them?

17- Which playlists have no Latin tracks?

18- What is the space, in bytes, occupied by the playlist "Grunge", and how much would it cost? (Assume that the cost of a playlist is the sum of the price of its constituent tracks).

19- Which playlists do not contain any tracks for the artists "Black Sabbath" nor "Chico Buarque" ?

20- List the names and the countries of those customers who are supported by an employee who was younger than 35 when hired. HINT: use *year* as the first parameter in DATEDIFF().

PART III: Relational Algebra

Write the relational algebra for the following queries:

1, 2, 4, 5, 10, 11, 14, 15, 20