

Database Management / SQL

Instructions

This assignment will test your understanding of conditional logic, views, ranking and windowing functions, and transactions.

You will need to create your own test database and tables using the criteria below but it's not necessary to submit the scripts for creating the database objects. Please submit your answers using only one file.

Prompt: A manufacturing company's data warehouse contains the following tables.

Region

<u>region_id (p)</u>	<u>region_name</u>	<u>super_region_id (f)</u>
101	North America	
102	USA	101
103	Canada	101
104	USA-Northeast	102
105	USA-Southeast	102
106	USA-West	102
107	Mexico	101

Note: (p) = "primary key" and (f) = "foreign key". They are not part of the column names.

Product

<u>product_id (p)</u>	<u>product_name</u>
1256	Gear - Large
4437	Gear - Small
5567	Crankshaft
7684	Sprocket

Sales_Totals

product_id (p)(f)	region_id (p)(f)	year (p)	month (p)	sales
1256	104	2020	1	1000
4437	105	2020	2	1200
7684	106	2020	3	800
1256	103	2020	4	2200
4437	107	2020	5	1700
7684	104	2020	6	750
1256	104	2020	7	1100
4437	105	2020	8	1050
7684	106	2020	9	600
1256	103	2020	10	1900
4437	107	2020	11	1500
7684	104	2020	12	900

Answer the following questions using the above tables/data:

Assignment 1

1. Write a SELECT statement to return the month column, as well as an additional column for the quarter (1, 2, 3, or 4) that is based on the month. Please use a CASE expression for this and do not alter the table.
2. Write a query that will pivot the Sales_Totals data so that there is a column for each of the 4 products containing the total sales across all months of 2020. It is OK to include the product_id values in your query, and the results should look as follows:
3. Write a query that retrieves all columns from the Sales_Totals table, along with a column called sales_rank which assigns a ranking to each row based on the value of the Sales column in descending order. Please use SQL RANK functions shown in the class video.