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-- T-SQL Fundamentals Fourth Edition

-- Chapter 04 - Subqueries

-- Exercises

-- © Itzik Ben-Gan

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-- 1

-- Write a query that returns all orders placed on the last day of

-- activity that can be found in the Orders table

-- Tables involved: TSQLV6 database, Orders table

--Desired output

orderid orderdate custid empid

----------- ----------- ----------- -----------

11077 2022-05-06 65 1

11076 2022-05-06 9 4

11075 2022-05-06 68 8

11074 2022-05-06 73 7

(4 rows affected)

-- 2

-- Write a query that returns all orders placed

-- by the customer(s) who placed the highest number of orders

-- \* Note: there may be more than one customer

-- with the same number of orders

-- Tables involved: TSQLV6 database, Orders table

-- Desired output:

custid orderid orderdate empid

----------- ----------- ---------- -----------

71 10324 2020-10-08 9

71 10393 2020-12-25 1

71 10398 2020-12-30 2

71 10440 2021-02-10 4

71 10452 2021-02-20 8

71 10510 2021-04-18 6

71 10555 2021-06-02 6

71 10603 2021-07-18 8

71 10607 2021-07-22 5

71 10612 2021-07-28 1

71 10627 2021-08-11 8

71 10657 2021-09-04 2

71 10678 2021-09-23 7

71 10700 2021-10-10 3

71 10711 2021-10-21 5

71 10713 2021-10-22 1

71 10714 2021-10-22 5

71 10722 2021-10-29 8

71 10748 2021-11-20 3

71 10757 2021-11-27 6

71 10815 2022-01-05 2

71 10847 2022-01-22 4

71 10882 2022-02-11 4

71 10894 2022-02-18 1

71 10941 2022-03-11 7

71 10983 2022-03-27 2

71 10984 2022-03-30 1

71 11002 2022-04-06 4

71 11030 2022-04-17 7

71 11031 2022-04-17 6

71 11064 2022-05-01 1

(31 rows affected)

-- 3

-- Write a query that returns employees

-- who did not place orders on or after May 1st, 2022

-- Tables involved: TSQLV6 database, Employees and Orders tables

-- Desired output:

empid firstname lastname

----------- ---------- --------------------

3 Judy Lew

5 Sven Mortensen

6 Paul Suurs

9 Patricia Doyle

(4 rows affected)

-- 4

-- Write a query that returns

-- countries where there are customers but not employees

-- Tables involved: TSQLV6 database, Customers and Employees tables

-- Desired output:

country

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Argentina

Austria

Belgium

Brazil

Canada

Denmark

Finland

France

Germany

Ireland

Italy

Mexico

Norway

Poland

Portugal

Spain

Sweden

Switzerland

Venezuela

(19 rows affected)

-- 5

-- Write a query that returns for each customer

-- all orders placed on the customer's last day of activity

-- Tables involved: TSQLV6 database, Orders table

-- Desired output:

custid orderid orderdate empid

----------- ----------- ----------- -----------

1 11011 2022-04-09 3

2 10926 2022-03-04 4

3 10856 2022-01-28 3

4 11016 2022-04-10 9

5 10924 2022-03-04 3

...

87 11025 2022-04-15 6

88 10935 2022-03-09 4

89 11066 2022-05-01 7

90 11005 2022-04-07 2

91 11044 2022-04-23 4

(90 rows affected)

-- 6

-- Write a query that returns customers

-- who placed orders in 2021 but not in 2022

-- Tables involved: TSQLV6 database, Customers and Orders tables

-- Desired output:

custid companyname

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21 Customer KIDPX

23 Customer WVFAF

33 Customer FVXPQ

36 Customer LVJSO

43 Customer UISOJ

51 Customer PVDZC

85 Customer ENQZT

(7 rows affected)

-- 7

-- Write a query that returns customers

-- who ordered product 12

-- Tables involved: TSQLV6 database,

-- Customers, Orders and OrderDetails tables

-- Desired output:

custid companyname

----------- ----------------------------------------

48 Customer DVFMB

39 Customer GLLAG

71 Customer LCOUJ

65 Customer NYUHS

44 Customer OXFRU

51 Customer PVDZC

86 Customer SNXOJ

20 Customer THHDP

90 Customer XBBVR

46 Customer XPNIK

31 Customer YJCBX

87 Customer ZHYOS

(12 rows affected)

-- 8

-- Write a query that calculates a running total qty

-- for each customer and month using subqueries

-- Tables involved: TSQLV6 database, Sales.CustOrders view

-- Desired output:

custid ordermonth qty runqty

----------- ----------- ----------- -----------

1 2021-08-01 38 38

1 2021-10-01 41 79

1 2022-01-01 17 96

1 2022-03-01 18 114

1 2022-04-01 60 174

2 2020-09-01 6 6

2 2021-08-01 18 24

2 2021-11-01 10 34

2 2022-03-01 29 63

3 2020-11-01 24 24

3 2021-04-01 30 54

3 2021-05-01 80 134

3 2021-06-01 83 217

3 2021-09-01 102 319

3 2022-01-01 40 359

...

(636 rows affected)

-- 9

-- Explain the difference between IN and EXISTS

-- 10

-- Write a query that returns for each order the number of days that past

-- since the same customer’s previous order. To determine recency among orders,

-- use orderdate as the primary sort element and orderid as the tiebreaker.

-- Tables involved: TSQLV6 database, Sales.Orders table

-- Desired output:

custid orderdate orderid diff

----------- ---------- ----------- -----------

1 2021-08-25 10643 NULL

1 2021-10-03 10692 39

1 2021-10-13 10702 10

1 2022-01-15 10835 94

1 2022-03-16 10952 60

1 2022-04-09 11011 24

2 2020-09-18 10308 NULL

2 2021-08-08 10625 324

2 2021-11-28 10759 112

2 2022-03-04 10926 96

...

(830 rows affected)