

SQL Assignment – 4

Q1. You are an analyst helping a Vet Clinic by making some sense of the raw data available. The data is saved across four files. pets.csv, owners.csv, proceduredetails.csv, procedurehistory.csv. Upload all of them in your SQL Server and do the below analysis:

- Write a query to find the cumulative sum of total procedures performed for each pet at a monthly level. (Use Self join and partition by both)
- Write a query to extract information for those pets who have undergone procedure type "Vaccinations" with subcode 3, 4 and 5 or undergone procedure type "General Surgeries" with subcode 8,10,13,15,16. (Try both subquery and join)
- Write a query to find the top 5 pets in terms of fees paid for all the procedures performed
- Write a query to find 4 owners who paid the least fees for procedures performed on all their pets
- Write a query to find first and last date of procedure performed on each of the pets. The output should have columns (Pet Name, First Procedure Date, Last Procedure Date)
- Write a query to find all the owners whose pet's name does not begin from letters d to s.
- Write a query to find 3 day rolling average price incurred by each pet Id

Q2. Write a SQL query to convert Table T1 into Table T.

T1

CUST_ID	Metric	Value
A	Sales	10
A	Units	2
B	Sales	15
B	Units	5
C	Sales	14
C	Units	4
D	Sales	12
D	Units	7

T2

CUST_ID	Sales	Units
A	10	2
B	15	5
C	14	4
D	12	7

Q3. Consider the single-column table below.

COL1
1
1.2
1.5
2.2
NA
NAN
NULL

Answer the following questions:

1. What is the possible data type of the column 'COL1'?
2. What will the output of the following SQL statements
 - a. 'SELECT COUNT (*) AS ENTRIES FROM TABLE;'
 - b. 'SELECT COUNT(COL1) AS ENTRIES FROM TABLE;'
 - c. 'SELECT COUNT (DISTINCT COL1) AS ENTRIES FROM TABLE;'

Q4. Analyse 3 tables below (Customer sales, store and product data) and write a nested query to find out the name of the most popular item in each of the 2

cities :

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Cutomer_Name	Item_Code	Store_ID
Ajay	XG105	1235
Ajay	XG102	1235
Ajay	XG103	1235
Shanu	XG103	8866
Nitin	XG101	1235
Abhishek	XG101	8866
Abhishek	XG103	8866
Luv	XG103	2113
Akhil	XG104	2113
Akhil	XG105	2113
Rohit	XG103	8866
Rohit	XG101	8866
Naveen	XG102	2113
Naveen	XG103	2113

Store_ID	Store Location
1235	Delhi
2113	Bangalore
8866	Delhi

Item Code	Item Name
XG101	Blue Berry Cake
XG102	Blackforest Cake
XG103	Apple Pie
XG104	Truffle
XG105	Lemon Pie

Q5. You are given the following datasets: Customers.csv, Orders.csv, Order_Details.csv & Product_Details.csv. Import all of them into your SQL Server.

Understand the variables and connectors between the tables. After that, Do the following:

- a) Find the Country wise distinct count of customers
- b) Spot the primary key in all the 4 tables
- c) Create the following table:

City	Country	Customer_Count	Total_orders

- d) Create the following table:

Year	Total_Orders	Total_Quantity	Total_Sales

- e) Find the Best Performing product in terms of Total Quantity Consumed

Q6. What is the error in the below queries?

- a.

```
SELECT Id, name, YEAR(hire_date) AS Year
FROM Table
WHERE Year >= 2010;
```
- b.

```
SELECT id, name
FROM students
WHERE grades =
    (SELECT MAX(grades)
     FROM students
     GROUP BY subject_id);
```