

SQL PROBLEM CHALLENGE

DAY 10

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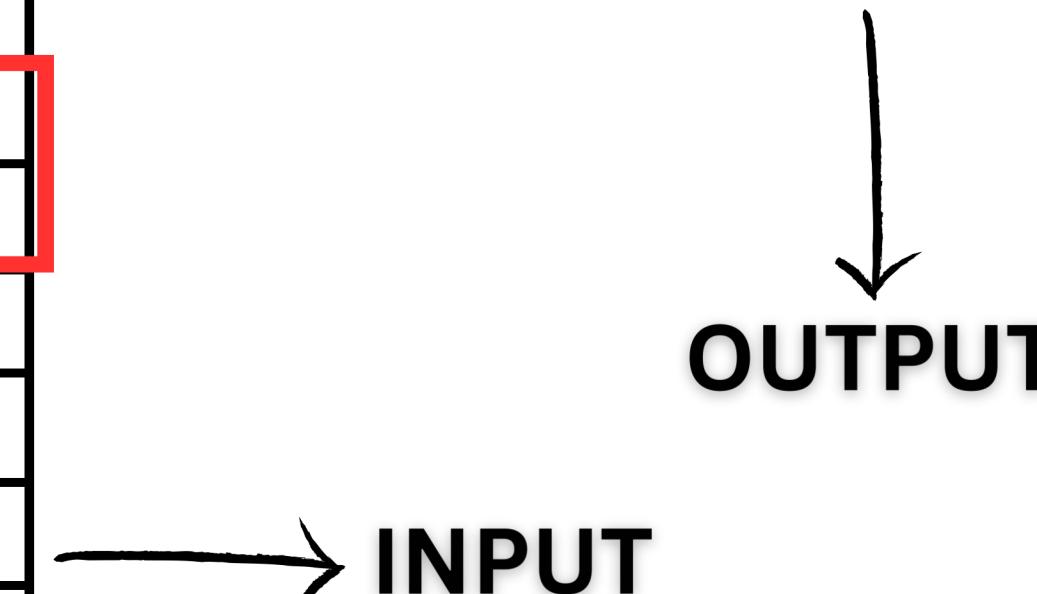


PROBLEM STATEMENT

Please how create the second table from first. Image attached.

client	auto	repair date	indicator	value
c1	a1	2022	level	good
c1	a1	2022	velocity	90
c1	a1	2023	level	regular
c1	a1	2023	velocity	80
c1	a1	2024	level	wrong
c1	a1	2024	velocity	70
c2	a1	2022	level	good
c2	a1	2022	velocity	90
c2	a1	2023	level	wrong
c2	a1	2023	velocity	50
c2	a2	2024	level	good
c2	a2	2024	velocity	80

velocity	good	wrong	regular
50	0	1	0
70	0	1	0
80	1	0	1
90	2	0	0



SOLUTION 1

```
SELECT value AS velocity,
SUM(CASE WHEN level = 'good' THEN 1 ELSE 0 END) AS good,
SUM(CASE WHEN level = 'wrong' THEN 1 ELSE 0 END) AS wrong,
SUM(CASE WHEN level = 'regular' THEN 1 ELSE 0 END) AS regular
FROM
(
    SELECT *, LAG(value) OVER(ORDER BY client ASC) AS 'level' FROM auto_repair
) SQ
WHERE indicator='velocity'
GROUP BY value;
```

SOLUTION 2

```
SELECT velocity, good, wrong, regular
FROM
(
    SELECT value AS velocity, level
    FROM (SELECT indicator,value, LAG(value) OVER(ORDER BY client ASC) AS level
          FROM auto_repair
         ) sq
    WHERE indicator='velocity'

)bq
PIVOT
(
    COUNT(level)
    FOR level IN ([good],[wrong],[regular])
)pq;
```

LET'S CHECK OUT THE BREAKDOWN OF THIS SOLUTION



```
SELECT velocity, good, wrong, regular
FROM
(
    SELECT value AS velocity, level
    FROM (SELECT indicator,value, LAG(value) OVER(ORDER BY client ASC) AS level
          FROM auto_repair
         ) sq
    WHERE indicator='velocity'
) bq
PIVOT
(
    COUNT(level)
    FOR level IN ([good],[wrong],[regular])
)pq;
```

2

1

3

```
SELECT indicator, value, LAG(value) OVER(ORDER BY client ASC) AS level  
FROM auto_repair;
```

In the Innermost query(1):

We are trying to retrieve the value of the previous row's “value” column ordered by the “client” column using LAG().

This results in below output.

	indicator	value	level
1	level	good	NULL
2	velocity	90	good
3	level	regular	90
4	velocity	80	regular
5	level	wrong	80
6	velocity	70	wrong
7	level	good	70
8	velocity	90	good
9	level	wrong	90
10	velocity	50	wrong
11	level	good	50
12	velocity	80	good

```
SELECT value AS velocity, level
FROM (SELECT indicator, value, LAG(value) OVER(ORDER BY client ASC) AS level
      FROM auto_repair
     ) sq
WHERE indicator = 'velocity';
```

In the Intermediate query(2):

We are filtering the results from the first query denoted as “sq” to show us only those rows where indicator = ‘velocity’

	velocity	level
1	90	good
2	80	regular
3	70	wrong
4	90	good
5	50	wrong
6	80	good

```
PIVOT  
(  
    COUNT(level)  
    FOR level IN ([good], [wrong], [regular])  
) pq;
```

**In the pivot query now,
We are counting the occurrences of
different levels (good, wrong, regular) and
pivoting them into separate columns based
on their respective values in the level
column.**

This leads us to our final result.

	velocity	good	wrong	regular
1	50	0	1	0
2	70	0	1	0
3	80	1	0	1
4	90	2	0	0



THANK YOU
