T-SQL 1 [Finding Previous Value from the List]

T-SQL Query | [Finding Previous Value Puzzle] – Write a query which will extract the previous value from the currentQuota for each row.

Input

BusinessEntityID	SalesYear	CurrentQuota
275	2005	367000
275	2005	556000
275	2006	502000
275	2006	550000
275	2006	1429000
275	2006	1324000

Output ..> We need to extract the last value from the currentQuota (Last Column)

BusinessEntityID	SalesYear	CurrentQuota	lagCurrentData
275	2005	367000	0
275	2005	556000	367000
275	2006	502000	556000
275	2006	550000	502000
275	2006	1429000	550000
275	2006	1324000	1429000

Rules/Restrictions

- The solution should be should use “SELECT” statement or “CTE”.
- Send your solution to pawankkmr@gmail.com
- Do not post you solution in comments section

Script Use the below script to generate the source table and fill them up with the sample data.

```
--So we first create the table

CREATE TABLE lag
(
BusinessEntityID INT
,SalesYear   INT
,CurrentQuota  DECIMAL(20,4)
)
GO

INSERT INTO lag
SELECT 275 , 2005 , '367000.00'
UNION ALL
SELECT 275 , 2005 , '556000.00'
UNION ALL
SELECT 275 , 2006 , '502000.00'
UNION ALL
SELECT 275 , 2006 , '550000.00'
UNION ALL
SELECT 275 , 2006 , '1429000.00'
UNION ALL
SELECT 275 , 2006 ,  '1324000.00'
```

Update May 14 | Solution

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```
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/************   SOLUTION 1    | Pawan Kumar Khowal     ***************/

;WITH CTE AS
(
    SELECT  BusinessEntityID ,SalesYear ,CurrentQuota
    , ROW_NUMBER() OVER (ORDER BY BusinessEntityID ) AS ID
    FROM lag
)
SELECT c.BusinessEntityID ,c.SalesYear , c.CurrentQuota
    , ISNULL((SELECT TOP 1 d.CurrentQuota FROM CTE d WHERE c.ID > d.ID ORDER BY ID DESC ),0) lagCurrentData
FROM CTE c


/************   SOLUTION 2    | Pawan Kumar Khowal     ***************/

;WITH CTE AS
(
 SELECT BusinessEntityID ,SalesYear ,CurrentQuota ,ROW_NUMBER()OVER (ORDERBY BusinessEntityID )AS ID
 FROM lag
)
SELECT c.Id ,c.BusinessEntityID ,c.SalesYear , c.CurrentQuota,ISNULL(d.CurrentQuota,0) lagCurrentData
FROM CTE c LEFTOUTERJOIN CTE d ON c.ID =(d.ID+1)


--
```

Add a comment if you have any other solution in mind. We all need to learn.

Keep Learning

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thoughts on “T-SQL 1 [Finding Previous Value from the List]”

1. Pingback: Puzzles in Microsoft sql server – uniqueblogforsql
2. Pingback: uniqueblogforsql
3. ***said:*****Cameron Neale**

   March 25, 2016 at 11:54 AM

   I really enjoy the puzzles on this site, Pawan.

   This is perhaps a lazy solution on my part, but I simply used the Lag() window function:

   SELECT
   BusinessEntityID
   , SalesYear
   , CurrentQuota
   , LAG(CurrentQuota, 1, 0) OVER(ORDER BY CurrentQuota) AS lagCurrentData
   FROM Puzzles.lag;

   REPLY

   - ***said:*****Pawan Kumar Khowal**

     April 9, 2016 at 8:32 AM

     Thank you Cameron !!!

     REPLY

4. *said:*邢源源

   February 18, 2017 at 3:28 PM

   SELECT *,ISNULL(LAG(CurrentQuota) OVER (ORDER BY CurrentQuota),0) as lagCurrentData
   FROM lag

REPLY

5. *said:*Kiran Kalyanam

   March 16, 2017 at 12:06 PM

   SELECT BusinessEntityID,SalesYear,CurrentQuota,LAG(CurrentQuota,1,0) OVER (ORDER BY SalesYear) AS Previous FROM Lag

   REPLY

6. *said:*Mohit Vaghadiya

   April 29, 2017 at 12:17 AM

   https://polldaddy.com/js/rating/rating.jshttps://polldaddy.com/js/rating/rating.js;WITH CTE AS
   (
   SELECT *, ROW_NUMBER() OVER(ORDER BY (SELECT 1)) AS Num FROM lag
)
   SELECT C.BusinessEntityID, C.SalesYear, C.CurrentQuota,
   ISNULL((SELECT CurrentQuota FROM CTE WHERE Num = C.Num-1), 0)
   FROM CTE C

   REPLY

7. *said:*Iyyappan (@Iyyappan_s14)

   March 1, 2018 at 1:11 PM

   select BusinessEntityID, SalesYear, CurrentQuota, lag(currentquota,1,0) OVER (ORDER BY (select null)) from lag

   REPLY

   - ***said:*Pawan Kumar Khowal**

     March 1, 2018 at 2:12 PM

     Excellent solution :)

     REPLY

8. *said:*Prakash Chokkalingam

   August 21, 2019 at 6:58 AM

   Hi pawan..in your SOLUTION 2 , i think we should use Inner Join instead of Left Outer join as Left Outer Join will display unwanted extra records. Please correct if i am wrong.

   /********** SOLUTION 2 | Pawan Kumar Khowal **********/

   ;WITH CTE AS
   (
   SELECT BusinessEntityID ,SalesYear ,CurrentQuota ,ROW_NUMBER()OVER (ORDERBY BusinessEntityID)AS ID
   FROM lag
)
   SELECT c.Id ,c.BusinessEntityID ,c.SalesYear , c.CurrentQuota,ISNULL(d.CurrentQuota,0) lagCurrentData
   FROM CTE c LEFTOUTERJOIN CTE d ON c.ID =(d.ID+1)

   REPLY

9. ***said:*rakeshsql2020**

   February 21, 2020 at 12:45 AM

   with CTE_SALES as (
   SELECT BusinessEntityID ,SalesYear ,CurrentQuota,
   LAG (CurrentQuota,1) OVER (PARTITION BY BusinessEntityID ORDER BY BusinessEntityID, CurrentQuota) AS lagCurrentData
   FROM lag)
   SELECT BusinessEntityID ,SalesYear ,CurrentQuota,lagCurrentData from CTE_SALES

   REPLY

10. *said:*Dolly Chahar

    July 25, 2021 at 11:56 AM

```
with CTE(BusinessEntityID,SalesYear,CurrentQuota)AS
(
SELECT '275', '2005','367000'
UNION ALL
SELECT '275', '2005','556000'
UNION ALL
SELECT '275', '2006','502000'
UNION ALL
SELECT '275', '2006','550000'
UNION ALL
SELECT '275', '2006','1429000'
Union All
SELECT '275', '2006','1324000'
)
select BusinessEntityID,SalesYear,CurrentQuota, (select max(b.CurrentQuota) from CTE b where b.CurrentQuota < a.CurrentQuota) as
lagCurrentData
from CTE a
```

REPLY