

Notes from HAR Report Writers' Group, 12/1/2017

Presentation on DENSE_RANK Function and Common Table Expressions

For questions, email Deborah Scott, Quality Manager at EOEa.

DENSE_RANK Function

- Allows you to rank assessments, enrollments, etc.
- Enables you to get the last assessments, enrollment, etc.
 - A rank of "1" = the last assessment
- Example:
**DENSE_RANK() OVER(PARTITION BY HAR_ASSESSMENTS.CONSUMER_UUID
ORDER BY HAR_ASSESSMENTS.SESSION_DATE DESC,
HAR_ASSESSMENTS.UPDATE_DATETIME DESC, HAR_ASSESSMENTS.SESSION_UUID
DESC) AS RANK**
- DESC = descending; this allows the most recent assessment to be ranked as "1" (ASC allows the oldest assessment in the date range to be ranked as "1")
- Example of output:

CONSUMER_AGENCY_DES	CLIENT_ID	SESSION_DATE	UPDATE_DATETIME	RANK
ASAP1	123 ...	6/8/2017	6/8/2017	1
ASAP1	123 ...	4/3/2017	4/4/2017	2
ASAP1	123 ...	3/14/2017	3/14/2017	3
ASAP1	123 ...	10/4/2016	10/6/2016	4
ASAP1	456 ...	9/20/2017	9/20/2017	1
ASAP1	456 ...	9/8/2017	9/11/2017	2
ASAP1	456 ...	8/1/2017	8/8/2017	3
ASAP1	456 ...	12/20/2016	12/20/2016	4
ASAP1	456 ...	12/6/2016	12/6/2016	5
ASAP1	456 ...	10/7/2016	10/11/2016	6

- Consumer 123 had 4 assessments in the date range chosen for the report (10/1/2016 through 9/30/2017). This consumer's most recent assessment in that date range was on 6/8/2017 and is ranked as "1."
- The function starts the ranking again for the next consumer, 456.

- Syntax—breakdown of the function without the fields:
DENSE_RANK()
OVER(PARTITION BY _____
ORDER BY _____)
AS _____
- Breakdown of the function without the fields and with explanations:
DENSE_RANK()
OVER(PARTITION BY each consumer
ORDER BY fields that will determine which CDS is ranked 1st, 2nd, 3rd, etc.)
AS the name of the column—you can choose the name
- To choose the last assessment in the query:
 - Use the WHERE clause
 - Example:
WHERE
CDS.RANK = 1
- To choose the last assessment in Excel:
 - Sort by the rank column
 - Delete numbers greater than 1
- Dealing with ties:
 - When ranking, a consumer may have two or more assessments with the same dates.
 - The function can enable you to get 1 assessment with a rank of “1” per consumer.
 - If a consumer has 2 or more assessments with the same SESSION_DATE, the formula ranks by UPDATE_DATETIME.
 - In the instances when 2 or more assessments have the same SESSION_DATE, as well as the same UPDATE_DATETIME, the formula arbitrarily ranks by the SESSION_UUID, so that a consumer does not have two assessments with the same rank.
- Example of DENSE_RANK function for ranking enrollments:
DENSE_RANK() OVER(PARTITION BY HAR_CARE_ENROLLMENTS.CONSUMER_UUID
ORDER BY HAR_CARE_ENROLLMENTS.START_DATE DESC,

HAR_CARE_ENROLLMENTS.TERMINATION_DATE DESC,
HAR_CARE_ENROLLMENTS.END_DATE DESC,
HAR_CARE_ENROLLMENTS.CARE_PROGRAM_NAME DESC) AS ENROLLRANK

- For more information: [https://msdn.microsoft.com/en-us/library/ms173825\(v=sql.105\).aspx](https://msdn.microsoft.com/en-us/library/ms173825(v=sql.105).aspx)

Common table expression (CTE)

- Allows you to separate out the logic of one part of the query
- Can be used to solve join problems
- Can use more than 1 CTE in a query
- Syntax (brief)
 - Starts with WITH
 - You name the CTE
 - The keyword AS follows the CTE name
- Example in community folder
- For more information: <https://docs.microsoft.com/en-us/sql/t-sql/queries/with-common-table-expression-transact-sql>