

Expressions – Aggregations on the Fly


2019 Q1

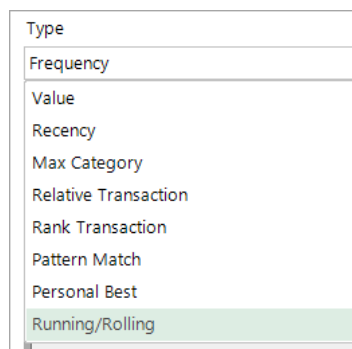
Summary

*'On the fly' aggregations now include a **Running/Rolling** function.*

The new **Running/Rolling** feature of 'on the fly' aggregations is accessed through the Expression window in the same way that existing on the fly aggregations are.

This new functionality allows us to establish the value of a transaction from a defined number of previous transactions.

- Running Aggregation – will work out a value for this transaction from ALL the transactions up to and including it
- Rolling Aggregation – will work out a value for this transaction from a fixed number of transactions up to and including it
- In a new Expression window, click on the  **Add Aggregation** button and then on the tab that opens up
- From the **Type** drop down select **Running/Rolling**



- Select the appropriate Transactional and Grouping tables – in this example, Bookings and People

Running

- Order Records by **Policy Inception Date** from **Earliest to Latest**
- Pick the **Policy Premium**
- Ensure the **Running** radio button is checked

The functions available are *Running - Sum, Average, Minimum, Maximum*.

- Select **Running Sum**

The screenshot shows a configuration window for a data tool. The fields are as follows:

- Name:** Running Sum(Policy Premium)
- Type:** Running/Rolling
- Grouping Table:** Customers
- Transactional Table:** Policies
- Order records by:** Policy Inception Date
- From:** Earliest to Latest
- Pick the:** Policy Premium
- Running** (selected) Rolling
- Function:** Running Sum
- Window Size:** 1
- Weight Type:** Simple (No weighting)
- Using these transactions:** Filtered to all transactions

If required, it is possible to add a transaction filter, rather than applying the aggregation across the entire database.

- Name the expression **Running Sum of Cost**

We can sense check the expression using a Data Grid, grouped by Person URN and ordered into ascending order by Booking Date:

Client Reference Number		
Policy Inception D...	Policy Premium	Running Sum of Policy Premium
31-12-2010	15,496.80	15,496.80
31-08-2011	10,331.20	25,828.00
+ Client Reference Number : 100082 (1 item)		
+ Client Reference Number : 100091 (1 item)		
+ Client Reference Number : 100350 (1 item)		
+ Client Reference Number : 100398 (1 item)		
+ Client Reference Number : 100426 (1 item)		
- Client Reference Number : 115692 (5 items)		
Policy Inception D...	Policy Premium	Running Sum of Policy Premium
22-05-2010	45.00	45.00
16-02-2011	56.25	101.25
30-03-2011	56.25	157.50
26-05-2011	22.50	180.00
10-03-2012	45.00	225.00
+ Client Reference Number : 115739 (2 items)		
+ Client Reference Number : 119240 (1 item)		
- Client Reference Number : 124774 (3 items)		
Policy Inception D...	Policy Premium	Running Sum of Policy Premium
24-07-2010	99.38	99.38
22-01-2012	159.00	258.38
31-03-2012	139.13	397.51

Rolling

- Order Records by **Policy Inception Date** from **Earliest to Latest**
- Pick the **Policy Premium**
- Ensure the **Rolling** radio button is checked

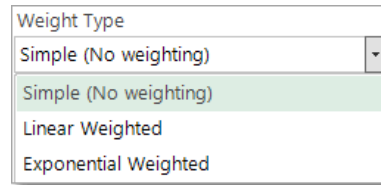
The functions available are *Rolling - Sum, Average, Minimum, Maximum*.

- Select **Rolling Sum**
- Enter a **Window Size** of 3 so that our rolling sum is across 3 transactions.
- Name the expression **Rolling Sum of Cost**

We can sense check the expression using a Data Grid, grouped by Person URN and ordered into ascending order by Booking Date:

Client Reference Number		
+ Client Reference Number : 144443 (3 items)		
- Client Reference Number : 147046 (5 items)		
Policy Inception D...	Policy Premium	Rolling Policy Premium
06-10-2010	40.73	40.73
22-06-2011	64.00	104.73
06-07-2011	58.18	162.91
13-07-2011	75.64	197.82
10-06-2012	52.36	186.18
- Client Reference Number : 151236 (7 items)		
Policy Inception D...	Policy Premium	Rolling Policy Premium
05-07-2010	121.84	121.84
20-08-2010	85.29	207.13
15-07-2011	85.29	292.42
21-07-2011	109.66	280.24
08-08-2011	24.36	219.31
17-02-2012	60.92	194.94
19-06-2012	121.84	207.12

When selecting the **Rolling Average** function, the **Weight Type** drop-down becomes accessible, with 3 options to control the weighting of how important the previous transactions are:



- **Simple (No Weighting)** - applies no weighting
- **Linear Weighted** – weights the transactional value over time, decreasing in a linear fashion, with the highest weighting being assigned to the most recent transaction
- **Exponential Weighted** – weights the transactional value over time, decreasing exponentially, with the highest weighting being assigned to the most recent transaction

Linear and Exponential weighting are useful, giving higher importance to more recent transactions.