Advanced DAX - Time Intelligence Functions

Customer Sales Measure

```
Customer Sales =

SUMX(
        'Sales by Store',
        'Sales by Store'[quantity_sold]*'Sales by Store'[unit_price]
)
```

Performance to Date (YTD, MTD, QTD)

YTD (Year-To-Date): Cumulative sum of values starting from 1st day of year (or Month in case of MTD or Quarter in case of QTD)

TOTALYTD: Returns YTD value and can also apply filter

TOTALYTD(<*expression*>, <*dates*>[,<*filter*>][,<*year_end_date*>])

DATESYTD: Only Returns Dates in the form of table. It also accepts optional parameter as end date of year. If no value supplied for end date of year, then 31/12 is considered by default.

DATESYTD(<*dates*> [, <*year_end_date*>])

```
Sales TOTALYTD =
TOTALYTD(
            [Customer Sales],
            'Calendar'[Transaction_Date]
)
```

```
Sales TOTALYTD for Coffee =
TOTALYTD(
            [Customer Sales],
            'Calendar'[Transaction_Date],
            'Product Lookup'[product_category] = "Coffee"
)
```

```
Sales DATESYTD =
CALCULATE(
            [Customer Sales],
            DATESYTD('Calendar'[Transaction_Date])
)
```

```
Sales DATESYTD (Fiscal Year Rolling) =
CALCULATE(
            [Customer Sales],
            DATESYTD('Calendar'[Transaction_Date],"3-31")
)
```

Year	Customer Sales	Sales TOTALYTD	Sales TOTALYTD for Coffee	Sales DATESYTD	Sales DATESYTD (Fiscal Year Rolling)
2017					
January	$81,845.09	$81,845.09	$31,292.70	$81,845.09	$81,845.09
February	$76,273.99	$158,119.08	$60,594.35	$158,119.08	$158,119.08
March	$99,154.43	$257,273.51	$98,974.70	$257,273.51	$257,273.51
April	$119,309.01	$376,582.52	$145,061.40	$376,582.52	$119,309.01
May	$157,208.99	$533,791.51	$205,584.40	$533,791.51	$276,518.00
June	$166,899.78	$700,691.29	$270,506.70	$700,691.29	$443,417.78
July	$157,968.55	$858,659.84	$331,654.90	$858,659.84	$601,386.33
August	$154,485.32	$1,013,145.16	$392,012.05	$1,013,145.16	$755,871.65
September	$145,821.19	$1,158,966.35	$448,917.65	$1,158,966.35	$901,692.84
October	$169,223.54	$1,328,189.89	$514,427.65	$1,328,189.89	$1,070,916.38
November	$179,999.30	$1,508,189.19	$583,982.15	$1,508,189.19	$1,250,915.68
December	$169,884.92	$1,678,074.11	$650,236.60	$1,678,074.11	$1,420,800.60
2018					
January	$141,284.63	$141,284.63	$54,914.35	$141,284.63	$1,562,085.23
February	$124,030.84	$265,315.47	$103,165.45	$265,315.47	$1,686,116.07
March	$143,475.17	$408,790.64	$159,413.25	$408,790.64	$1,829,591.24
April	$149,780.08	$558,570.72	$217,771.55	$558,570.72	$149,780.08

Start and End of Period

Returns Start and End date of period (Month, Year, Quarter).

Use Case: Getting Sales on Start of the Month or End of the Month to compare current date sales.

STARTOFMONTH	STARTOFQUARTER	STARTOFYEAR
ENDOFMONTH	ENDOFQUARTER	ENDOFYEAR

```
STARTOFMONTH =
STARTOFMONTH(
                'Calendar'[Transaction_Date]
)
```

```
ENDOFMONTH =
ENDOFMONTH(
                'Calendar'[Transaction_Date]
)
```

```
Sales On STARTOFMONTH =
 CALCULATE(
            [Customer Sales],
            STARTOFMONTH('Calendar'[Transaction_Date])
)
```

```
Sales On ENDOFMONTH =
 CALCULATE(
            [Customer Sales],
            ENDOFMONTH('Calendar'[Transaction_Date])
)
```

rd Data Queries

Transaction_Date	Customer Sales	STARTOFMONTH	ENDOFMONTH	Sales at STARTOFMONTH	Sales at ENDOFMONTH
2017-01-01	$2,508.20	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-02	$2,403.35	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-03	$2,565.00	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-04	$2,220.10	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-05	$2,418.85	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-06	$2,273.85	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-07	$2,787.00	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-08	$2,638.53	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-09	$2,676.61	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-10	$2,685.65	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-11	$2,555.75	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-12	$2,327.70	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-13	$3,033.60	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-20	$2,603.73	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-21	$3,082.85	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-22	$2,367.33	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-23	$2,853.15	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-24	$2,868.95	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-25	$2,846.55	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-26	$2,863.03	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-27	$2,742.10	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-28	$2,037.10	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-29	$2,060.75	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-30	$2,476.41	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-01-31	$2,334.13	2017-01-01	2017-01-31	$2,508.20	$2,334.13
2017-02-01	$2,466.30	2017-02-01	2017-02-28	$2,466.30	$2,311.10
2017-02-02	$2,506.90	2017-02-01	2017-02-28	$2,466.30	$2,311.10
2017-02-03	$2,591.45	2017-02-01	2017-02-28	$2,466.30	$2,311.10
2017-02-04	$2,551.70	2017-02-01	2017-02-28	$2,466.30	$2,311.10
2017-02-05	$2,304.70	2017-02-01	2017-02-28	$2,466.30	$2,311.10
2017-02-06	$2,203.40	2017-02-01	2017-02-28	$2,466.30	$2,311.10
2017-02-07	$2,563.35	2017-02-01	2017-02-28	$2,466.30	$2,311.10

Previous & Next Period

Adjacent Next & Previous

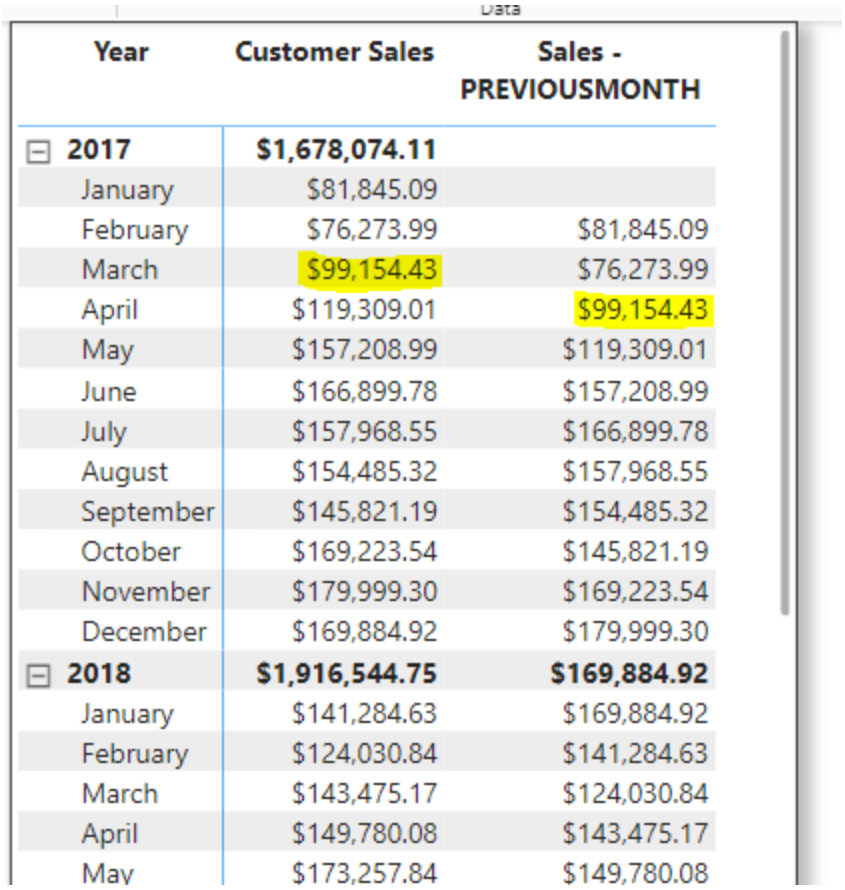
NEXTDAY	NEXTMONTH	NEXTQUARTER	NEXTYEAR
PREVIOUSDAY	PREVIOUSMONTH	PREVIOUSQUARTER	PREVIOUSYEAR

```
PREVIOUSDAY = PREVIOUSDAY('Calendar'[Transaction_Date])
```

```
Sales - PREVIOUSDAY =
CALCULATE(
            [Customer Sales],
            PREVIOUSDAY('Calendar'[Transaction_Date])
)
```

```
% Increase From Previous Day =
IFERROR(
        ([Customer Sales] - [Sales - PREVIOUSDAY]) / [Sales - PREVIOUSDAY],
        0
)
```

Transaction_Date	Customer Sales	PREVIOUSDAY	Sales - PREVIOUSDAY	% Increase From Previous Day
2017-01-01	$2,508.20			0%
2017-01-02	$2,403.35	2017-01-01	$2,508.20	-4%
2017-01-03	$2,565.00	2017-01-02	$2,403.35	7%
2017-01-04	$2,220.10	2017-01-03	$2,565.00	-13%
2017-01-05	$2,418.85	2017-01-04	$2,220.10	9%
2017-01-06	$2,273.85	2017-01-05	$2,418.85	-6%
2017-01-07	$2,787.00	2017-01-06	$2,273.85	23%
2017-01-08	$2,638.53	2017-01-07	$2,787.00	-5%
2017-01-09	$2,676.61	2017-01-08	$2,638.53	1%
2017-01-10	$2,685.65	2017-01-09	$2,676.61	0%
2017-01-11	$2,555.75	2017-01-10	$2,685.65	-5%
2017-01-12	$2,327.70	2017-01-11	$2,555.75	-9%
2017-01-13	$3,033.60	2017-01-12	$2,327.70	30%
2017-01-14	$2,682.51	2017-01-13	$3,033.60	-12%
2017-01-15	$3,167.71	2017-01-14	$2,682.51	18%
2017-01-16	$2,829.16	2017-01-15	$3,167.71	-11%
2017-01-17	$3,285.80	2017-01-16	$2,829.16	16%
2017-01-18	$2,735.96	2017-01-17	$3,285.80	-17%
2017-01-19	$2,913.68	2017-01-18	$2,735.96	6%



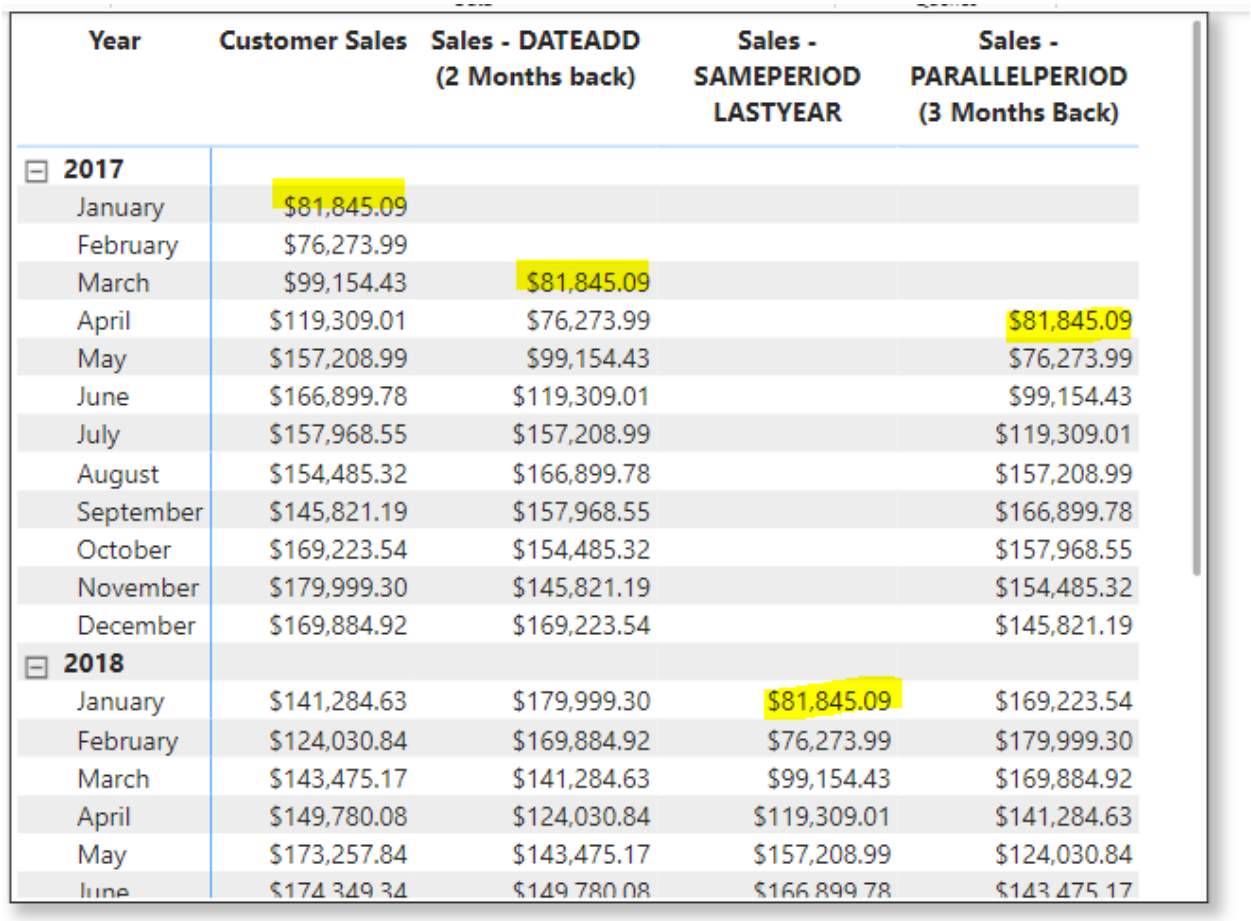
Year	Customer Sales	Sales - PREVIOUSMONTH
2017	**$1,678,074.11**	
January	$81,845.09	
February	$76,273.99	$81,845.09
March	$99,154.43	$76,273.99
April	$119,309.01	$99,154.43
May	$157,208.99	$119,309.01
June	$166,899.78	$157,208.99
July	$157,968.55	$166,899.78
August	$154,485.32	$157,968.55
September	$145,821.19	$154,485.32
October	$169,223.54	$145,821.19
November	$179,999.30	$169,223.54
December	$169,884.92	$179,999.30
2018	**$1,916,544.75**	**$169,884.92**
January	$141,284.63	$169,884.92
February	$124,030.84	$141,284.63
March	$143,475.17	$124,030.84
April	$149,780.08	$143,475.17
May	$173,257.84	$149,780.08

DATEADD	SAMEPERIODLASTYEAR	PARALLELPERIOD	

```
Sales - DATEADD (2 Months back) =
CALCULATE(
            [Customer Sales],
            DATEADD('Calendar'[Transaction_Date], -2, MONTH)
)
```

```
Sales - SAMEPERIOD LASTYEAR =
CALCULATE(
            [Customer Sales],
            SAMEPERIODLASTYEAR('Calendar'[Transaction_Date])
)
```

```
Sales - PARALLELPERIOD (3 Months Back) =
 CALCULATE(
            [Customer Sales],
            PARALLELPERIOD('Calendar'[Transaction_Date], -3, MONTH)
 )
```



Year	Customer Sales	Sales - DATEADD (2 Months back)	Sales - SAMEPERIOD LASTYEAR	Sales - PARALLELPERIOD (3 Months Back)
2017				
January	$81,845.09			
February	$76,273.99			
March	$99,154.43	$81,845.09		
April	$119,309.01	$76,273.99		$81,845.09
May	$157,208.99	$99,154.43		$76,273.99
June	$166,899.78	$119,309.01		$99,154.43
July	$157,968.55	$157,208.99		$119,309.01
August	$154,485.32	$166,899.78		$157,208.99
September	$145,821.19	$157,968.55		$166,899.78
October	$169,223.54	$154,485.32		$157,968.55
November	$179,999.30	$145,821.19		$154,485.32
December	$169,884.92	$169,223.54		$145,821.19
2018				
January	$141,284.63	$179,999.30	$81,845.09	$169,223.54
February	$124,030.84	$169,884.92	$76,273.99	$179,999.30
March	$143,475.17	$141,284.63	$99,154.43	$169,884.92
April	$149,780.08	$124,030.84	$119,309.01	$141,284.63
May	$173,257.84	$143,475.17	$157,208.99	$124,030.84
June	$174,349.34	$149,780.08	$166,899.78	$143,475.17

Running Totals

DATESINPERIOD & DATESBETWEEN

```
Sales - DATESINPERIOD (Running Total of last 2 months) =

CALCULATE(
            [Customer Sales],
            DATESINPERIOD(
                        'Calendar'[Transaction_Date],
                        LASTDATE('Calendar'[Transaction_Date]),
                        -2,
                        MONTH
            )
)
```

```
Sales - DATESINPERIOD (Running Total of Last 3 Months) =
CALCULATE(
            [Customer Sales],
            DATESINPERIOD(
                        'Calendar'[Transaction_Date],
                        LASTDATE('Calendar'[Transaction_Date]),
                        -3,
                        MONTH
            )
)
```

```
Sales - DATESBETWEEN (Running Total of Last 4 months) =
CALCULATE(
            [Customer Sales],
            DATESBETWEEN(
                        'Calendar'[Transaction_Date],
                        DATEADD(LASTDATE('Calendar'[Transaction_Date]), -4, MONTH),
                        LASTDATE('Calendar'[Transaction_Date])
            )
)
```

Year	Customer Sales	Sales - DATESINPERIOD (Running Total of last 2 months)	Sales - DATESINPERIOD (Running Total of Last 3 Months)	Sales - DATESBETWEEN (Running Total of Last 4 months)
⊟ 2017				
January	$81,845.09	$81,845.09	$81,845.09	$81,845.09
February	$76,273.99	$158,119.08	$158,119.08	$158,119.08
March	$99,154.43	$175,428.42	$257,273.51	$257,273.51
April	$119,309.01	$218,463.44	$294,737.43	$376,582.52
May	$157,208.99	$276,518.00	$375,672.43	$454,280.55
June	$166,899.78	$324,108.77	$443,417.78	$544,883.31
July	$157,968.55	$324,868.33	$482,077.32	$604,283.56
August	$154,485.32	$312,453.87	$479,353.65	$640,123.82
September	$145,821.19	$300,306.51	$458,275.06	$634,724.25
October	$169,223.54	$315,044.73	$469,530.05	$632,995.07
November	$179,999.30	$349,222.84	$495,044.03	$658,637.49
December	$169,884.92	$349,884.22	$519,107.76	$669,385.62
⊟ 2018				
January	$141,284.63	$311,169.55	$491,168.85	$664,963.72
February	$124,030.84	$265,315.47	$435,200.39	$633,705.38
March	$143,475.17	$267,506.01	$408,790.64	$584,314.22

DATESINPERIOD v/s DATESBETWEEN

More Read:

https://radacad.com/datesinperiod-vs-datesbetween-dax-time-intelligence-for-power-bi