

## Power BI - DAX - p5 - Lecture 19

### BASIC DATE & TIME FUNCTIONS

**TODAY/NOW**

Returns the current date or exact time

=TODAY/NOW()

**DAY/MONTH /YEAR**

Returns the day of the month (1-31), month of the year (1-12), or year of a given date

=DAY/MONTH/YEAR(Date)

**HOUR/MINUTE /SECOND**

Returns the hour (0-23), minute (0-59), or second (0-59) of a given datetime value

=HOUR/MINUTE/SECOND(Datetime)

**WEEKDAY/ WEEKNUM**

Returns a weekday number from 1 (Sunday) to 7 (Saturday), or the week # of the year

=WEEKDAY/WEEKNUM(Date, [ReturnType])

**EOMONTH**

Returns the date of the last day of the month, +/- a specified number of months

=EOMONTH(StartDate, Months)

**DATEDIFF**

Returns the difference between two dates, based on a given interval (day, hour, year, etc.)

=DATEDIFF(Date1, Date2, Interval)

2.

```
Weekend =
IF(
    'Calendar Lookup'[Week Of Day] IN {6,7},
    "Weekend",
    "Weekday")
```

1.

```
Week Of Day =
WEEKDAY(
    'Calendar Lookup'[Date],
    2)
```

Calendars - Sunday - 1 till Saturday - 7 [Return Type - 1]

Calendars - Monday - 1 till Sunday - 7 [Return Type - 2] [Sat -6 & Sun - 7]

Calendars - Monday - 0 till Sunday - 6 [Return Type - 3]

```
Weekend = IF('Calendar Lookup'[Week Of Day] = 6 || 'Calendar Lookup'[Week Of Day] = 7, "Weekend", "Weekday")
```

## ASSIGNMENT: DATE & TIME

1. Create a new column in the Customer Lookup table named Birth Year, to extract only the year from the BirthDate column

```
Birth Year =  
YEAR(  
    'Customer Lookup'[BirthDate]  
)
```

Age = (Year(Today()) - Birth Year )

```
Age = YEAR(TODAY()) - 'Customer Lookup'[Birth Year]
```

Aged = DATEDIFF('Customer Lookup'[BirthDate], TODAY(), YEAR)

Age

## RELATED

RELATED() :-

Returns related values in each row of a table based on relationships with other tables

=RELATED(Column Name)

The column from a related table containing the values you want to retrieve

Examples:

- 'Product Lookup'[Product Name]
- 'Territory Lookup'[Country]

## HEY THIS IS IMPORTANT!

- RELATED works like a VLOOKUP function in Excel – it uses the relationship between tables (defined by primary and foreign keys) to pull values from one table into a new column of another.
- Since this function requires row context, it can only be used as a calculated column or as part of an iterator function that cycles through all rows in a table (FILTER, SUMX, MAXX, etc.)

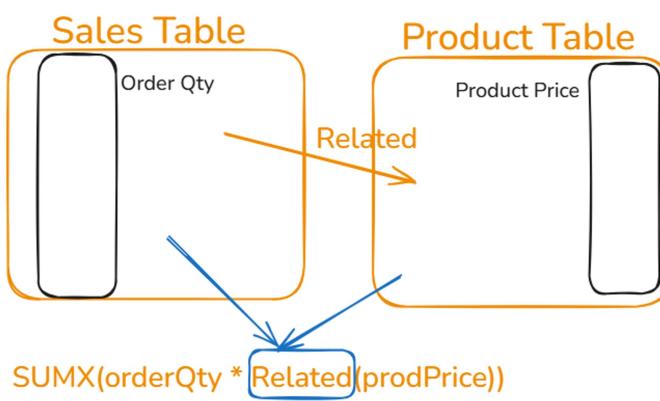
## PRO TIP:

Instead of using RELATED to create extra columns (which increases file size), nest it within measures like FILTER or SUMX

Retail Price =

```
RELATED(
    'Product Lookup'[ProductPrice])
```

Revenue =  
 $'Sales Data'[Retail Price] * 'Sales Data'[OrderQuantity]$



OrderQuantity	Index	Quantity Type	Retail Price
1	1176	Single Item	\$2,182
1	1184	Single Item	\$2,182
1	1287	Single Item	\$2,182
1	1348	Single Item	\$2,182
1	1407	Single Item	\$2,182
1	1466	Single Item	\$2,182
1	1489	Single Item	\$2,182
1	1503	Single Item	\$2,182
1	1575	Single Item	\$2,182
1	1589	Single Item	\$2,182
1	1617	Single Item	\$2,182
1	1714	Single Item	\$2,182
1	1722	Single Item	\$2,182
1	1765	Single Item	\$2,182
1	1783	Single Item	\$2,182
1	1812	Single Item	\$2,182
1	1851	Single Item	\$2,182

Order Qty	Product Price	Sales
1	100	100
2	200	400
3	100	300
4	100	400
2	200	400
1	100	100
2	100	200
3	200	600
1	300	300
5	400	2000

$$\text{Revenue} = 100 + 400 + 300 + \dots = 4800$$

$\text{SUMX}(\text{orderQty} * \text{prodPrice})$

**SUMX**

Iterator Function

$$(1*100) + (2*200) + (3*100) + (4*100) + (2*200) + \dots$$

$$\text{Revenue} = 4800$$

`Sales = 'Sales Data'[OrderQuantity] * 'Sales Data'[Retail Price]`

	OrderNumber	ProductKey	CustomerKey	TerritoryKey	OrderLineItem	OrderQuantity	Index	Quantity Type	Retail Price	Retail Cost	Sales
·2021	SO60200	541	11330	6	1	2	24293	Multiple Items	\$29	\$1	\$58
·2021	SO59919	541	19597	9	1	2	23555	Multiple Items	\$29	\$1	\$58
·2021	SO59771	541	26596	4	1	2	23136	Multiple Items	\$29	\$1	\$58
·2021	SO59718	541	11711	6	1	2	23033	Multiple Items	\$29	\$1	\$58
·2021	SO59657	541	16343	9	1	2	22917	Multiple Items	\$29	\$1	\$58
·2021	SO59511	541	26713	4	1	2	22650	Multiple Items	\$29	\$1	\$58
·2021	SO59293	541	27638	1	1	2	22012	Multiple Items	\$29	\$1	\$58
·2021	SO59225	541	26577	4	1	2	21767	Multiple Items	\$29	\$1	\$58
·2021	SO59156	541	26576	4	1	2	21650	Multiple Items	\$29	\$1	\$58
·2021	SO58854	541	15244	6	1	2	21251	Multiple Items	\$29	\$1	\$58
·2021	SO58782	541	12993	9	1	2	21247	Multiple Items	\$29	\$1	\$58
·2021	SO58781	541	13048	9	1	2	21096	Multiple Items	\$29	\$1	\$58
·2021	SO58654	541	27197	1	1	2	20855	Multiple Items	\$29	\$1	\$58
·2021	SO58653	541	26690	4	1	2	20797	Multiple Items	\$29	\$1	\$58
·2021	SO58614	541	27327	8	1	2	20750	Multiple Items	\$29	\$1	\$58
·2021	SO58493	541	26266	1	1	2	20396	Multiple Items	\$29	\$1	\$58
·2021	SO58483	541	19567	9	1	2	20389	Multiple Items	\$29	\$1	\$58
·2021	SO58257	541	27630	4	1	2	19923	Multiple Items	\$29	\$1	\$58
·2021	SO58200	541	19566	9	1	2	19824	Multiple Items	\$29	\$1	\$58
·2021	SO58206	541	26556	1	1	2	19791	Multiple Items	\$29	\$1	\$58
·2021	SO58199	541	19583	9	1	2	19779	Multiple Items	\$29	\$1	\$58
·2021	SO58203	541	27247	4	1	2	19727	Multiple Items	\$29	\$1	\$58

`Revenue = SUM('Sales Data'[Sales])`

**\$24.91M**

Revenue

`Revenue = SUMX('Sales Data', 'Sales Data'[OrderQuantity] * 'Sales Data'[Retail Price])`

If you are clear with SUMX..... What next????

Delete the Sales Column

`Revenue = SUMX('Sales Data', 'Sales Data'[OrderQuantity] * RELATED('Product Lookup'[ProductPrice]))`

Do we really want Retail Price in Sales Data???

Drop the Retail Price Column