Advanced DAX - Vehicle Orders - p2

- Understanding Summarize Table.
- ADD COLUMNS Function.
- GROUP BY + Current Group().
- Use of Var & Return.
- Related Functions.
- ALL Functions.
- Adding New DateTable.
- Time Intelligence Functions.

Summarize Table

PRODUCTLINE	Total Revenue
Classic Cars	$29,68,546.4
Motorcycles	$9,71,086.29
Planes	$8,77,942.21
Ships	$6,77,940.4
Trains	$2,03,804.26
Trucks and Buses	$9,47,355.18
Vintage Cars	$16,44,212.05
Total	**$82,90,886.79**

```
SUMMARIZE(Table,
[GroupBy_ColumnName1], ...,
[Name1], [Expression1], ...)
```

Creates a summary the input table grouped by the specified columns.

1/2

Aggregated

```
1 ProductLine Sales Summary Table =
2                 SUMMARIZE(
3                     'Vehicle Orders',
4                     'Vehicle Orders'[PRODUCTLINE],
5                     "Total Sales",
6                     SUM('Vehicle Orders'[Sales Value]
7 ))
```

PRODUCTLINE	Total Sales
Motorcycles	$9,71,086.29
Classic Cars	$29,68,546.4
Trucks and Buses	$9,47,355.18
Vintage Cars	$16,44,212.05
Planes	$8,77,942.21
Ships	$6,77,940.4
Trains	$2,03,804.26

```
ProductLine Sales Summary Table =
                    SUMMARIZE(
                        'Vehicle Orders',
                        'Vehicle Orders'[COUNTRY],
                        'Vehicle Orders'[PRODUCTLINE],
                        "Total Revenue",
                        SUM('Vehicle Orders'[Sales Value]
))
```

PRODUCTLINE	Total Revenue	COUNTRY
Motorcycles	$4,27,488.21	USA
Classic Cars	$10,15,261.93	USA
Trucks and Buses	$3,40,668.64	USA
Vintage Cars	$6,45,050.04	USA
Planes	$2,89,594.72	USA
Ships	$2,01,835.45	USA
Trains	$66,526.22	USA
Motorcycles	$1,92,884.31	France
Classic Cars	$3,02,423.44	France
Trucks and Buses	$97,510.64	France
Vintage Cars	$1,49,361.03	France
Planes	$93,930.48	France
Ships	$63,330.39	France
Trains	$19,817.56	France
Motorcycles	$43,900.62	Norway

```
ProductLine Sales Summary Table =
                    SUMMARIZE(
                        'Vehicle Orders',
                        'Vehicle Orders'[PRODUCTLINE],
                        'Vehicle Orders'[DEALSIZE],
                        'Vehicle Orders'[COUNTRY],
                        "Total Revenue",
                        SUM('Vehicle Orders'[Sales Value]
))
```

PRODUCTLINE	Total Revenue	COUNTRY	DEALSIZE
Motorcycles	$2,68,987.23	USA	Medium
Classic Cars	$6,32,588.73	USA	Medium
Trucks and Buses	$2,29,716.32	USA	Medium
Vintage Cars	$3,92,087.54	USA	Medium
Planes	$1,50,718.07	USA	Medium
Ships	$1,06,713.73	USA	Medium
Trains	$29,620.64	USA	Medium
Motorcycles	$1,08,411.4	France	Medium
Classic Cars	$1,68,781.21	France	Medium
Trucks and Buses	$83,900.65	France	Medium
Vintage Cars	$73,016.62	France	Medium
Planes	$55,134.02	France	Medium
Ships	$39,371.15	France	Medium
Trains	$7,000	France	Medium
Motorcycles	$27,403.08	Norway	Medium
Classic Cars	$66,551.71	Norway	Medium

Add Columns → Its helpful for generating a new table by taking the reference of existing table and add columns on it as per our choice.

```
ADDCOLUMNS(Table, Name1,
Expression1, ...)
```

Returns a table with new columns specified by the DAX expressions.

```
ADDCOLUMNS(
```

fx ADDCOLUMNS

```
1 Add Columns Examples =
2 ADDCOLUMNS(
3     'Vehicle Orders',
4     "Order Value", 'Vehicle Orders'[PRICEEACH] * 'Vehicle Orders'[QUANTITYORDERED],
5     "Order Year" , YEAR('Vehicle Orders'[ORDERDATETIME]),
6     "Order Month", FORMAT('Vehicle Orders'[ORDERDATETIME],"MMMM"))
```

COUNTRY	TERRITORY	CONTACTLASTNAME	CONTACTFIRSTNAME	DEALSIZE	Target Delivery Date	Delay in Delivery	Sales Value	Order Value	Order Year	Order Month
Spain	EMEA	Freyre	Diego	Medium	21-05-2014 00:00:00	0	$2,000	$2,000	2014	May
Spain	EMEA	Freyre	Diego	Medium	27-11-2014 00:00:00	48	$2,000	$2,000	2014	November
Spain	EMEA	Freyre	Diego	Medium	15-10-2014 00:00:00	24	$3,400	$3,400	2014	October
Spain	EMEA	Freyre	Diego	Medium	16-08-2016 00:00:00	0	$4,200	$4,200	2016	August
Spain	EMEA	Freyre	Diego	Medium	30-08-2014 00:00:00	24	$3,900	$3,900	2014	August
Spain	EMEA	Freyre	Diego	Medium	19-06-2012 00:00:00	-24	$4,100	$4,100	2012	June
Spain	EMEA	Freyre	Diego	Medium	17-05-2014 00:00:00	24	$4,600	$4,600	2014	May
Spain	EMEA	Freyre	Diego	Medium	28-09-2013 00:00:00	24	$5,400	$5,400	2013	September
Spain	EMEA	Freyre	Diego	Medium	14-03-2014 00:00:00	24	$4,700	$4,700	2014	March
Spain	EMEA	Freyre	Diego	Medium	09-05-2014 00:00:00	0	$3,300	$3,300	2014	May
Spain	EMEA	Freyre	Diego	Medium	11-05-2016 00:00:00	48	$2,900	$2,900	2016	May
Spain	EMEA	Freyre	Diego	Medium	04-06-2012 00:00:00	-24	$3,600	$3,600	2012	June
Spain	EMEA	Freyre	Diego	Medium	15-09-2013 00:00:00	0	$4,000	$4,000	2013	September
Spain	EMEA	Freyre	Diego	Medium	26-05-2013 00:00:00	0	$3,800	$3,800	2013	May
Spain	EMEA	Freyre	Diego	Medium	30-03-2013 00:00:00	48	$3,900	$3,900	2013	March
Spain	EMEA	Freyre	Diego	Medium	14-09-2012 00:00:00	-24	$4,100	$4,100	2012	September
Spain	EMEA	Freyre	Diego	Medium	06-11-2013 00:00:00	48	$2,400	$2,400	2013	November

Var & Return → Creating a new Column

Example: Lets Created a Discounted Price Variables that calculates the discount based on the product, MotorCycle - 10% , Classic Cars - 15% , Other Product - 20%

```
Discounted Price =
VAR BasePrice = 'Vehicle Orders'[PRICEEACH]
VAR Discount =
            IF('Vehicle Orders'[PRODUCTLINE] = "Motorcycles",0.9,
                IF('Vehicle Orders'[PRODUCTLINE] = "Classic Cars", 0.85,0.8))
RETURN
    BasePrice * Discount
```

STALCODE	COUNTRY	TERRITORY	CONTACTLASTNAME	CONTACTFIRSTNAME	DEALSIZE	Target Delivery Date	Delay in Delivery	Product Value	Discounted Price
34	Spain	EMEA	Freyre	Diego	Medium	21-05-2014 00:00:00	0	$2,000	$85
34	Spain	EMEA	Freyre	Diego	Medium	27-11-2014 00:00:00	48	$2,000	$85
34	Spain	EMEA	Freyre	Diego	Medium	15-10-2014 00:00:00	24	$3,400	$85
34	Spain	EMEA	Freyre	Diego	Medium	16-08-2016 00:00:00	0	$4,200	$85
34	Spain	EMEA	Freyre	Diego	Medium	30-08-2014 00:00:00	24	$3,900	$85
34	Spain	EMEA	Freyre	Diego	Medium	19-06-2012 00:00:00	-24	$4,100	$80
34	Spain	EMEA	Freyre	Diego	Medium	17-05-2014 00:00:00	24	$4,600	$80
34	Spain	EMEA	Freyre	Diego	Medium	28-09-2013 00:00:00	24	$5,400	$80
34	Spain	EMEA	Freyre	Diego	Medium	14-03-2014 00:00:00	24	$4,700	$85
34	Spain	EMEA	Freyre	Diego	Medium	09-05-2014 00:00:00	0	$3,300	$85
34	Spain	EMEA	Freyre	Diego	Medium	11-05-2016 00:00:00	48	$2,900	$85
34	Spain	EMEA	Freyre	Diego	Medium	04-06-2012 00:00:00	-24	$3,600	$80
34	Spain	EMEA	Freyre	Diego	Medium	15-09-2013 00:00:00	0	$4,000	$80
34	Spain	EMEA	Freyre	Diego	Medium	26-05-2013 00:00:00	0	$3,800	$85

PRICEEACH	ORDERLINENUMBER	ORDERDATETIME	DELIVERYDATETIME	STATUS	PRODUCTLINE
$100	8	19-05-2014 23:07:00	21-05-2014 11:19:59	Shipped	Classic Cars
$100	11	25-11-2014 01:04:00	25-11-2014 07:56:06	Shipped	Classic Cars
$100	1	13-10-2014 00:33:00	14-10-2014 15:46:41	Shipped	Classic Cars
$100	12	14-08-2016 23:02:00	16-08-2016 17:27:35	Shipped	Classic Cars
$100	16	28-08-2014 00:16:00	29-08-2014 15:53:17	Shipped	Classic Cars
$100	9	17-06-2012 23:51:00	20-06-2012 23:46:07	Shipped	Trucks and Buses
$100	5	15-05-2014 23:47:00	16-05-2014 09:08:01	Shipped	Trucks and Buses
$100	5	26-09-2013 23:42:00	27-09-2013 02:26:05	Shipped	Trucks and Buses
$100	5	12-03-2014 00:54:00	13-03-2014 17:57:38	Shipped	Classic Cars
$100	15	07-05-2014 01:19:00	09-05-2014 18:31:03	Shipped	Classic Cars
$100	10	09-05-2016 00:47:00	09-05-2016 02:47:22	Shipped	Classic Cars
$100	2	02-06-2012 23:47:00	05-06-2012 04:30:35	Shipped	Vintage Cars
$100	7	13-09-2013 23:41:00	15-09-2013 22:52:02	Shipped	Vintage Cars
$100	6	24-05-2013 00:33:00	26-05-2013 02:35:03	Shipped	Classic Cars
$100	2	28-03-2013 01:26:00	28-03-2013 14:00:36	Shipped	Vintage Cars
$100	9	12-09-2012 01:12:00	15-09-2012 00:02:15	Shipped	Classic Cars

Calculated Column → row context

```
Discounted Price =
VAR BasePrice = 'Vehicle Orders'[PRICEEACH] 1 Columns
VAR Discount = 1 Columns
            IF('Vehicle Orders'[PRODUCTLINE] = "Motorcycles",0.9,
                IF('Vehicle Orders'[PRODUCTLINE] = "Classic Cars", 0.85,0.8))
RETURN
    BasePrice * Discount
```

Memory [RAM]

BasePrice = 98

Discount = 0.8

Product Line = Truck & Buses

Return = 98 * 0.8 = 78.4

Related Functions → Related Functions only works when you have a relationship exists.

```
1 DateTable =
2 CALENDAR(
3     MIN('Vehicle Orders'[ORDERDATETIME]),
4     MAX('Vehicle Orders'[ORDERDATETIME]))
```

Dimension Tables

Date
01-01-2012 00:00:00
02-01-2012 00:00:00
03-01-2012 00:00:00
04-01-2012 00:00:00
05-01-2012 00:00:00
06-01-2012 00:00:00
07-01-2012 00:00:00
08-01-2012 00:00:00
09-01-2012 00:00:00
10-01-2012 00:00:00
11-01-2012 00:00:00
12-01-2012 00:00:00
13-01-2012 00:00:00
14-01-2012 00:00:00
15-01-2012 00:00:00
16-01-2012 00:00:00
17-01-2012 00:00:00
18-01-2012 00:00:00
19-01-2012 00:00:00
20-01-2012 00:00:00
21-01-2012 00:00:00

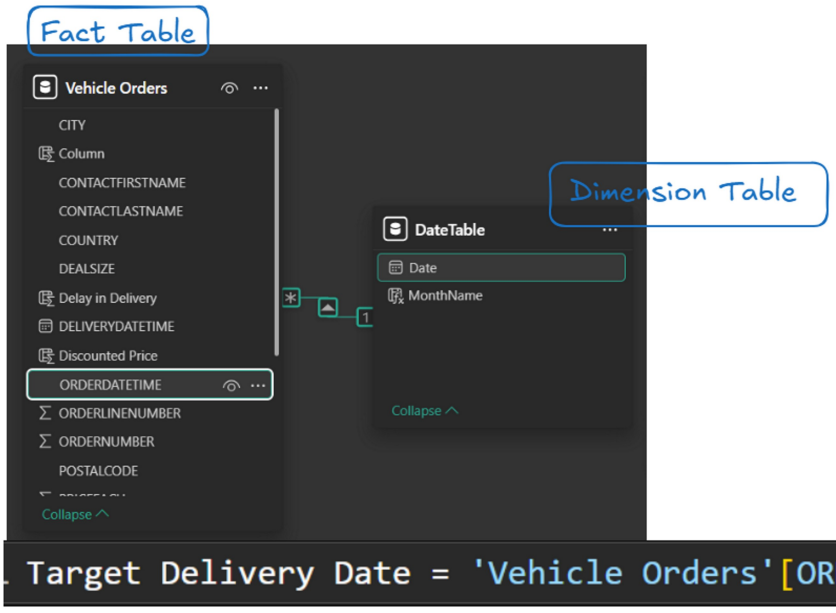
```
CALENDAR(StartDate, EndDate)
```

Returns a table with one column of all dates between StartDate and EndDate.

```
CALENDAR(
    MIN('Vehicle Orders'[ORDERDATETIME]),
    MAX('Vehicle Orders'[ORDERDATETIME]))
```

```
1 MonthName = FORMAT(DateTable[Date], "MMMM")
```

Date	MonthName
01-01-2012 00:00:00	January
02-01-2012 00:00:00	January
03-01-2012 00:00:00	January
04-01-2012 00:00:00	January
05-01-2012 00:00:00	January
06-01-2012 00:00:00	January
07-01-2012 00:00:00	January
08-01-2012 00:00:00	January
09-01-2012 00:00:00	January
10-01-2012 00:00:00	January
11-01-2012 00:00:00	January
12-01-2012 00:00:00	January
13-01-2012 00:00:00	January
14-01-2012 00:00:00	January




```
Target Delivery Date = 'Vehicle Orders'[ORDERDATETIME] + 2
```

Customer ID	Customer Name
1	Elvin Catron
2	Gustano Primm
3	Lacresha Whitty
4	Octavio Ricci
5	Jacinda Moffett
6	Betty scruggs
7	Era Gassner
8	Laticia Crimi
9	Alberta Fabela
10	Taylor Pogue
11	Grisede Mariscal
12	Sylvester Willbourn
13	Ricky Cheshire
14	Karisa Oquwndo
15	Debbie Orone
16	Loralee Widell
17	Season Viers
18	Juan Luker
19	Shan texeria
20	Yee Bordeau

```
1 Customer Name = RELATED(Customers[Customer Name])
```

Customer ID	Sales Representative	Date of sale	Sales_Channel	Customer Name
1	Naveen Menon	01 January 2024	Online	Elvin Catron
2	Preeti Khatri	02 January 2024	In-Store	Gustano Primm
3	Arjun Mehta	03 January 2024	In-Store	Lacresha Whitty
4	Aisha Kapoor	04 January 2024	In-Store	Octavio Ricci
5	Siddharth Sharma	05 January 2024	Online	Jacinda Moffett
6	Neha Singh	06 January 2024	In-Store	Betty scruggs
7	Rajiv Verma	07 January 2024	In-Store	Era Gassner
8	Roshni Patel	08 January 2024	Online	Laticia Crimi
9	Vikrant Reddy	09 January 2024	Online	Alberta Fabela
10	Anusha Kumar	10 January 2024	In-Store	Taylor Pogue
11	Rahul Kapoor	11 January 2024	In-Store	Grisede Mariscal
12	Aishwarya Nair	12 January 2024	In-Store	Sylvester Willbourn
13	Akshay Mishra	23 January 2024	Online	Ricky Cheshire
14	Divya Khurana	27 January 2024	Online	Karisa Oquwndo
15	Karthik Reddy	05 February 2024	Online	Debbie Orone
16	Shruti Mehra	16 February 2024	Online	Loralee Widell
17	Varun Khanna	17 February 2024	In-Store	Season Viers
18	Sneha Kapoor	18 February 2024	Online	Juan Luker
19	Ravi Malhotra	19 February 2024	Online	Shan texeria
20	Tanvi Sharma	20 February 2024	Online	Yee Bordeau