

Power Bl BETA DAX in a Day

Lab 05

Use DAX iterator functions in Power BI Desktop Model

version: BETA 08.2021

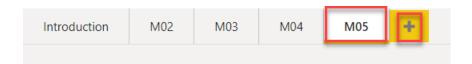
Overview

The estimated time to complete this lab is: 20 min

Exercise 1 – Complex summarization.

The next exercise shows how to create a measure using an iterator function.

- 1. Open the Adventure Works DW 2020 M04.pbix Power BI Desktop file.
- 2. In the Report view, add a new page and name it M05.



- 3. Add a new **Total Revenue** measure to the model.
- 4. In the formula box, enter the following measure definition and then press the **Enter** key.

- 5. Format the **Total Revenue** measure as currency with two decimal places.
- 6. Add the **Total Revenue** measure to the table visual along with Month from Date on M05 page.



7. Create a Discount measure using the following definition.

8. Format the **Discount** measure as currency with two decimal places, and then add it to the table visual.

Month	Revenue	Discount
2017 Jul	\$1,423,357.32	\$326,219.06
2017 Aug	\$2,057,902.45	\$1,031,506.86
2017 Sep	\$2,523,947.55	\$1,342,355.67
2017 Oct	\$561,681.48	\$0.00
2017 Nov	\$4,764,920.16	\$2,692,205.61
2017 Dec	\$596,746.56	\$0.00
2018 Jan	\$1,327,674.63	\$475,813.07
2018 Feb	\$3,936,463.31	\$2,237,412.77
2018 Mar	\$700,873.18	\$0.00
2018 Apr	\$1,519,275.24	\$588,995.26
2018 May	\$2,960,378.09	\$1,514,891.49
2018 Jun	\$1,487,671.19	\$1,659,893.12

9. Review the **Discount** measure and note how the definition uses the **RELATED** function to reference a column from a related table.

Exercise 2 – Higher grain summarization.

The next exercise shows how to create a measure using a higher grain for summarization.

- 1. Continue to use the file used from exercise 1.
- 2. Add a new **Revenue Avg** measure to the model.
- 3. In the formula box, enter the following measure definition and then press the **Enter** key.

- 4. Format the **Revenue Avg** measure as currency with two decimal places.
- 5. Add the **Revenue Avg** measure to the table visual found on Page M05 of the report.

Month	Revenue	Discount	Revenue Avg
2017 Jul	\$1,423,357.32	\$326,219.06	\$2,220.53
2017 Aug	\$2,057,902.45	\$1,031,506.86	\$2,179.98
2017 Sep	\$2,523,947.55	\$1,342,355.67	\$2,014.32
2017 Oct	\$561,681.48	\$0.00	\$3,228.05
2017 Nov	\$4,764,920.16	\$2,692,205.61	\$2,227.64
2017 Dec	\$596,746.56	\$0.00	\$3,174.18
2018 Jan	\$1,327,674.63	\$475,813.07	\$2,329.25
2018 Feb	\$3,936,463.31	\$2,237,412.77	\$2,321.03
2018 Mar	\$700,873.18	\$0.00	\$3,200.33
2018 Apr	\$1,519,275.24	\$588,995.26	\$2,182.87
2018 May	\$2,960,378.09	\$1,514,891.49	\$2,219.17
2018 Jun	\$1,487,671.19	\$1,659,893.12	\$1,398.19

- 6. Rename the Revenue Avg measure to Revenue Avg Order Line
- 7. Add a new **Revenue Avg Order** measure to the model.

```
Revenue Avg Order =
AVERAGEX(
         VALUES('Sales Order'[Sales Order]),
         [Revenue]
)
```

- 8. Format the **Revenue Avg Order** measure as currency with two decimal places.
- 9. Add the **Revenue Avg Order** measure to the table visual found on Page M05 of the report.

Month	Revenue	Discount	Revenue Avg Order Line	Revenue Avg Order
2017 Jul	\$1,423,357.32	\$326,219.06	\$2,220.53	\$4,352.77
2017 Aug	\$2,057,902.45	\$1,031,506.86	\$2,179.98	\$8,794.45
2017 Sep	\$2,523,947.55	\$1,342,355.67	\$2,014.32	\$9,670.30
2017 Oct	\$561,681.48	\$0.00	\$3,228.05	\$3,228.05
2017 Nov	\$4,764,920.16	\$2,692,205.61	\$2,227.64	\$12,441.04
2017 Dec	\$596,746.56	\$0.00	\$3,174.18	\$3,174.18
2018 Jan	\$1,327,674.63	\$475,813.07	\$2,329.25	\$5,698.17
2018 Feb	\$3,936,463.31	\$2,237,412.77	\$2,321.03	\$12,301.45
2018 Mar	\$700,873.18	\$0.00	\$3,200.33	\$3,200.33
2018 Apr	\$1,519,275.24	\$588,995.26	\$2,182.87	\$6,356.80
2018 May	\$2,960,378.09	\$1,514,891.49	\$2,219.17	\$9,642.93
2018 Jun	\$1,487,671.19	\$1,659,893.12	\$1,398.19	\$4,752.94

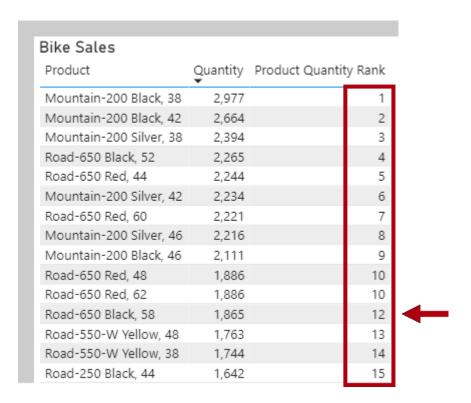
Exercise 3 – Create ranking measure.

The next exercise shows how to add a ranking measure to a report.

- 1. Continue with the file used from exercise 2.
- 2. Add a new **Product Quantity Rank** measure to the model.
- 3. In the formula box, enter the following measure definition and then press the **Enter** key.

```
Product Quantity Rank =
RANKX(
        ALL('Product'[Product]),
        [Quantity]
)
```

- 4. Format the **Product Quantity Rank** measure as whole number with **zero** decimal places.
- 5. Add another Table visual on page M05. Use product[Product], Quantity and Product Quantity Rank measure to the table visual. Sort the table using Product Quantity Rank column.



- 6. Notice there are some products tied in Rank. Your screen may look different, wherever the quantity has the same number Rank produces the same number but skips the next value.
- 7. Modify the **Product Quantity Rank** measure to use dense ranking using the following definition.

8. Notice the skipped ranking no longer exists below the two products tied for tenth place.

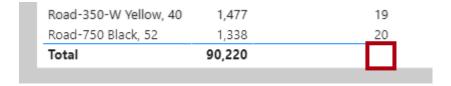
Product	Quantity	Product Quantit	y Rank
Mountain-200 Black, 38	2,977		1
Mountain-200 Black, 42	2,664		2
Mountain-200 Silver, 38	2,394		3
Road-650 Black, 52	2,265		4
Road-650 Red, 44	2,244		5
Mountain-200 Silver, 42	2,234		6
Road-650 Red, 60	2,221		7
Mountain-200 Silver, 46	2,216		8
Mountain-200 Black, 46	2,111		9
Road-650 Red, 48	1,886		10
Road-650 Red, 62	1,886		10
Road-650 Black, 58	1,865		11
Road-550-W Yellow, 48	1,763		12
Road-550-W Yellow, 38	1,744		13
Road-250 Black, 44	1,642		14

9. Notice the table visual total for the **Product Quantity Rank** is one (1).

Road-750 Black, 52	1,338	20
Road-350-W Yellow, 40	1,477	19

10. Modify the **Product Quantity Rank** measure to return a BLANK value for the total using the following definition.

11. Notice the table visual total for the **Product Quantity Rank** is now blank



Terms of Use

© 2021 Microsoft. All rights reserved.

By using this hands-on lab, you agree to the following terms:

The technology/functionality described in this hands-on lab is provided by Microsoft Corporation in a "sandbox" testing environment for purposes of obtaining your feedback and to provide you with a learning experience. You may only use the hands-on lab to evaluate such technology features and functionality and provide feedback to Microsoft. You may not use it for any other purpose. Without written permission, you may not modify, copy, distribute, transmit, display, perform, reproduce, publish, license, create derivative works from, transfer, or sell this hands-on lab or any portion thereof.

COPYING OR REPRODUCTION OF THE HANDS-ON LAB (OR ANY PORTION OF IT) TO ANY OTHER SERVER OR LOCATION FOR FURTHER REPRODUCTION OR REDISTRIBUTION WITHOUT WRITTEN PERMISSION IS EXPRESSLY PROHIBITED. THIS HANDS-ON LAB PROVIDES CERTAIN SOFTWARE TECHNOLOGY/PRODUCT FEATURES AND FUNCTIONALITY, INCLUDING POTENTIAL NEW FEATURES AND CONCEPTS, IN A SIMULATED ENVIRONMENT WITHOUT COMPLEX SET-UP OR INSTALLATION FOR THE PURPOSE DESCRIBED ABOVE. THE TECHNOLOGY/CONCEPTS REPRESENTED IN THIS HANDS-ON LAB MAY NOT REPRESENT FULL FEATURE FUNCTIONALITY AND MAY NOT WORK THE WAY A FINAL VERSION MAY WORK. WE ALSO MAY NOT RELEASE A FINAL VERSION OF SUCH FEATURES OR CONCEPTS. YOUR EXPERIENCE WITH USING SUCH FEATURES AND FUNCITONALITY IN A PHYSICAL ENVIRONMENT MAY ALSO BE DIFFERENT.

FEEDBACK If you give feedback about the technology features, functionality and/or concepts described in this hands-on lab to Microsoft, you give to Microsoft, without charge, the right to use, share and commercialize your feedback in any way and for any purpose. You also give to third parties, without charge, any patent rights needed for their products, technologies and services to use or interface with any specific parts of a Microsoft software or service that includes the feedback. You will not give feedback that is subject to a license that requires Microsoft to license its software or documentation to third parties because we include your feedback in them. These rights survive this agreement.

MICROSOFT CORPORATION HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS WITH REGARD TO THE HANDS-ON LAB, INCLUDING ALL WARRANTIES AND CONDITIONS OF MERCHANTABILITY, WHETHER EXPRESS, IMPLIED OR STATUTORY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. MICROSOFT DOES NOT MAKE ANY ASSURANCES OR REPRESENTATIONS WITH REGARD TO THE ACCURACY OF THE RESULTS, OUTPUT THAT DERIVES FROM USE OF THE VIRTUAL LAB, OR SUITABILITY OF THE INFORMATION CONTAINED IN THE VIRTUAL LAB FOR ANY PURPOSE.

DISCLAIMER This lab contains only a portion of new features and enhancements in Microsoft Power BI. Some of the features might change in future releases of the product.