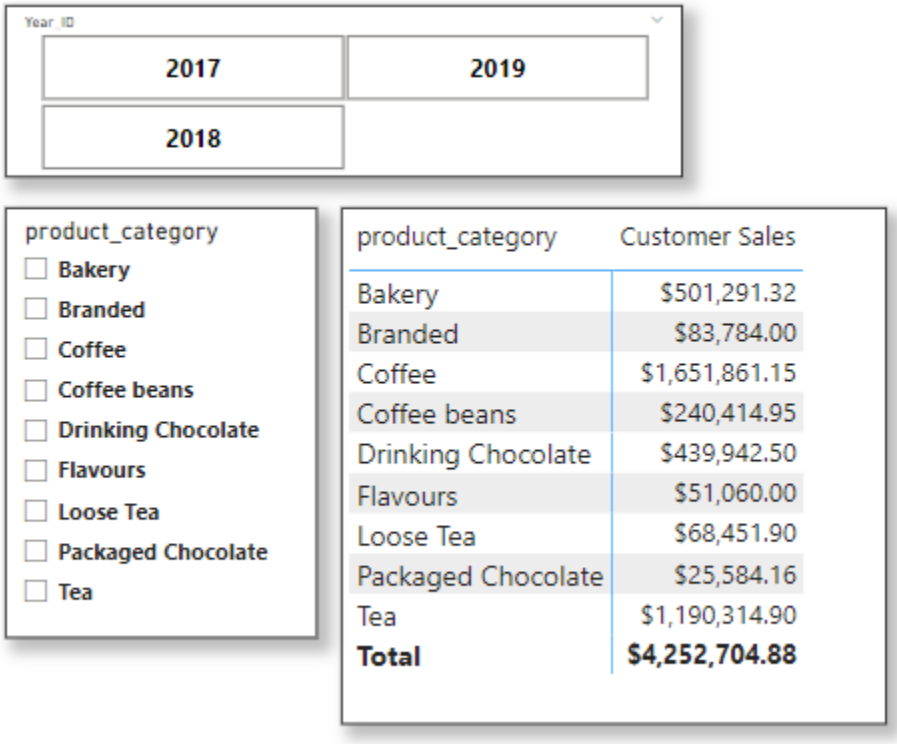
Advanced DAX – Filter Function

How data looks without FILTER.



Note: Although we have not explicitly applied any filter/slicer, one can see that once we add field "product category" in row section implicit filters are applied and sales values are filtered on each row.

```
Customer Sales =

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

FILTER & KEEPFILTERS

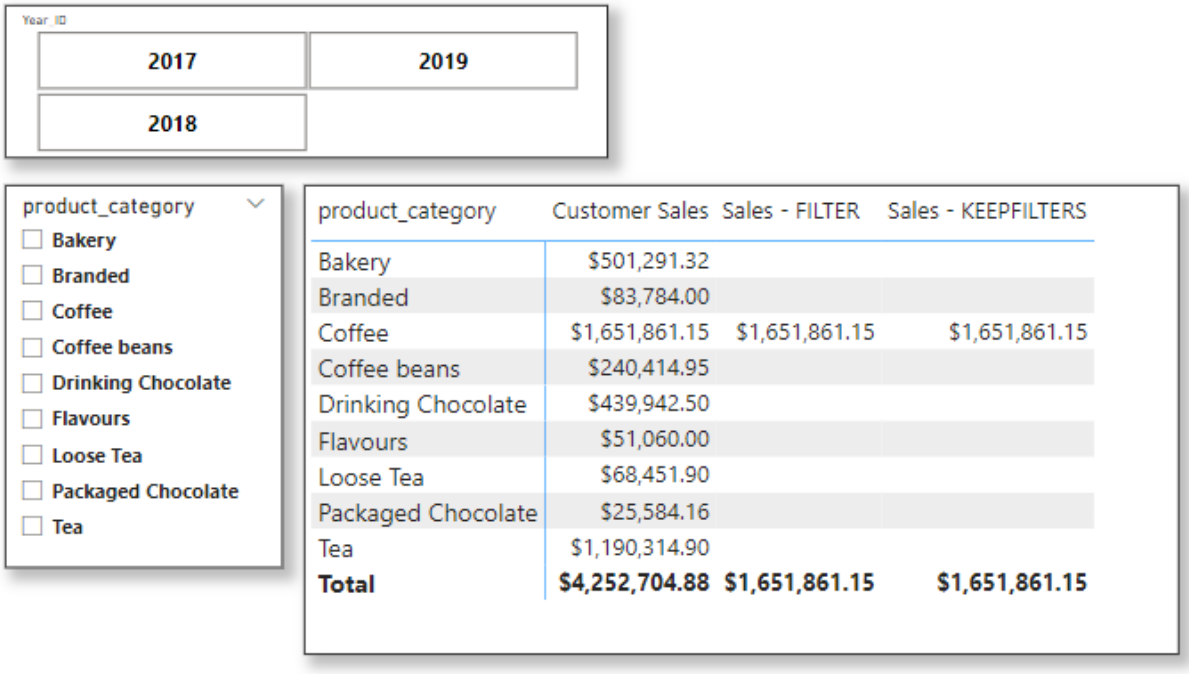
FILTER – Filters data on condition applied
KEEPFILTERS – Removes other filters except on mentioned column

Both below measures generate same result as shown in screenshot.

```
Sales - FILTER =
CALCULATE(
            [Customer Sales],
            FILTER('Product Lookup','Product Lookup'[product_category] = "Coffee")
)
```

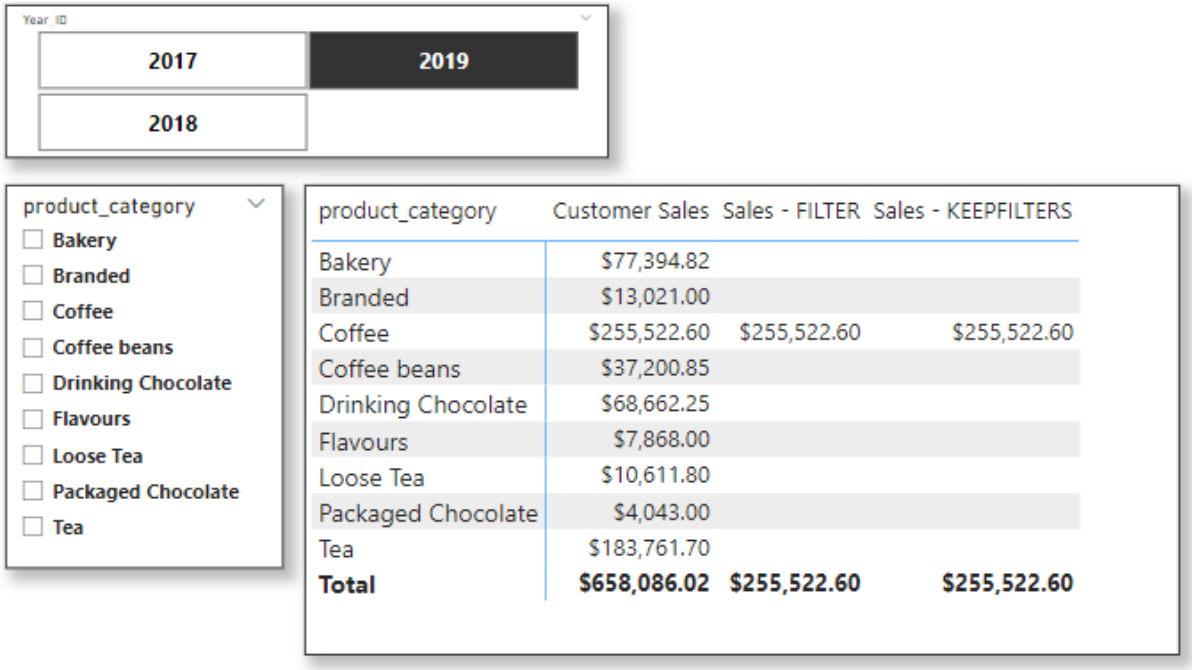
```
Sales - KEEPFILTERS =
CALCULATE(
            [Customer Sales],
            KEEPFILTERS('Product Lookup'[product_category] = "Coffee")
)
```

Without slicer selected



product_category	Customer Sales	Sales - FILTER	Sales - KEEPFILTERS
Bakery	$501,291.32		
Branded	$83,784.00		
Coffee	$1,651,861.15	$1,651,861.15	$1,651,861.15
Coffee beans	$240,414.95		
Drinking Chocolate	$439,942.50		
Flavours	$51,060.00		
Loose Tea	$68,451.90		
Packaged Chocolate	$25,584.16		
Tea	$1,190,314.90		
Total	**$4,252,704.88**	**$1,651,861.15**	**$1,651,861.15**

Selecting value in Date Slicer



product_category	Customer Sales	Sales - FILTER	Sales - KEEPFILTERS
Bakery	$77,394.82		
Branded	$13,021.00		
Coffee	$255,522.60	$255,522.60	$255,522.60
Coffee beans	$37,200.85		
Drinking Chocolate	$68,662.25		
Flavours	$7,868.00		
Loose Tea	$10,611.80		
Packaged Chocolate	$4,043.00		
Tea	$183,761.70		
Total	**$658,086.02**	**$255,522.60**	**$255,522.60**

ALL vs REMOVEFILTERS vs ALLSELECTED

ALL - Removes all filters and return table

REMOVEFILTERS - only removes existing filters mentioned in parameters (but does not return any table)

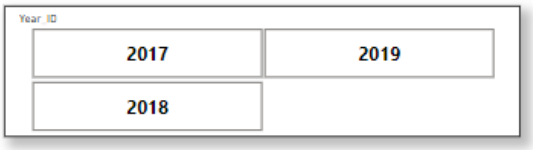
ALLSELECTED - Works same as ALL but changes total based on slicer selection

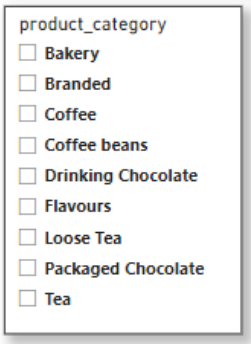
```
Sales - ALL =
CALCULATE(
        [Customer Sales],
        ALL('Sales by Store')
)
```

```
Sales - ALLSELECTED =
CALCULATE(
        [Customer Sales],
        ALLSELECTED('Sales by Store')
)
```

```
Sales - REMOVEFILTERS =
CALCULATE(
        [Customer Sales],
        REMOVEFILTERS('Sales by Store')
)
```

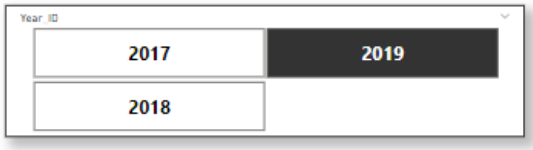
Matrix without any filter/slicer value selected

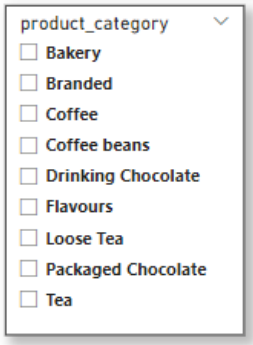




product_category	Customer Sales	Sales - ALL	Sales - ALLSELECTED	Sales - REMOVEFILTERS
Bakery	$501,291.32	$4,252,704.88	$4,252,704.88	$4,252,704.88
Branded	$83,784.00	$4,252,704.88	$4,252,704.88	$4,252,704.88
Coffee	$1,651,861.15	$4,252,704.88	$4,252,704.88	$4,252,704.88
Coffee beans	$240,414.95	$4,252,704.88	$4,252,704.88	$4,252,704.88
Drinking Chocolate	$439,942.50	$4,252,704.88	$4,252,704.88	$4,252,704.88
Flavours	$51,060.00	$4,252,704.88	$4,252,704.88	$4,252,704.88
Loose Tea	$68,451.90	$4,252,704.88	$4,252,704.88	$4,252,704.88
Packaged Chocolate	$25,584.16	$4,252,704.88	$4,252,704.88	$4,252,704.88
Tea	$1,190,314.90	$4,252,704.88	$4,252,704.88	$4,252,704.88
Total	**$4,252,704.88**	**$4,252,704.88**	**$4,252,704.88**	**$4,252,704.88**

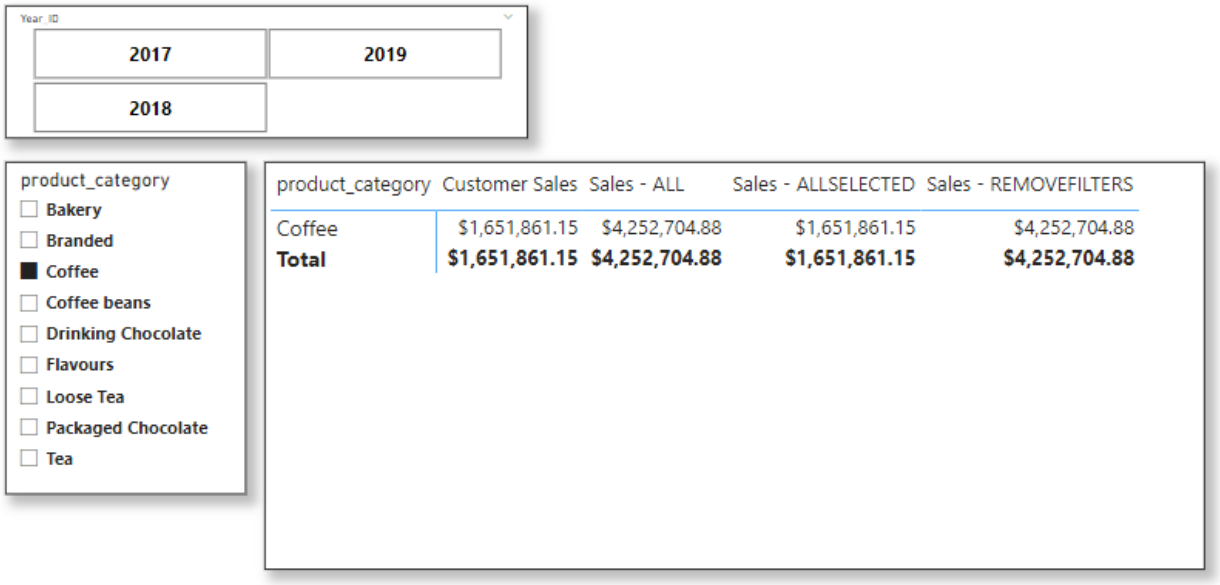
Matrix with date filter/slicer applied





product_category	Customer Sales	Sales - ALL	Sales - ALLSELECTED	Sales - REMOVEFILTERS
Bakery	$77,394.82	$4,252,704.88	$658,086.02	$4,252,704.88
Branded	$13,021.00	$4,252,704.88	$658,086.02	$4,252,704.88
Coffee	$255,522.60	$4,252,704.88	$658,086.02	$4,252,704.88
Coffee beans	$37,200.85	$4,252,704.88	$658,086.02	$4,252,704.88
Drinking Chocolate	$68,662.25	$4,252,704.88	$658,086.02	$4,252,704.88
Flavours	$7,868.00	$4,252,704.88	$658,086.02	$4,252,704.88
Loose Tea	$10,611.80	$4,252,704.88	$658,086.02	$4,252,704.88
Packaged Chocolate	$4,043.00	$4,252,704.88	$658,086.02	$4,252,704.88
Tea	$183,761.70	$4,252,704.88	$658,086.02	$4,252,704.88
Total	**$658,086.02**	**$4,252,704.88**	**$658,086.02**	**$4,252,704.88**

Matrix with product category filter selected



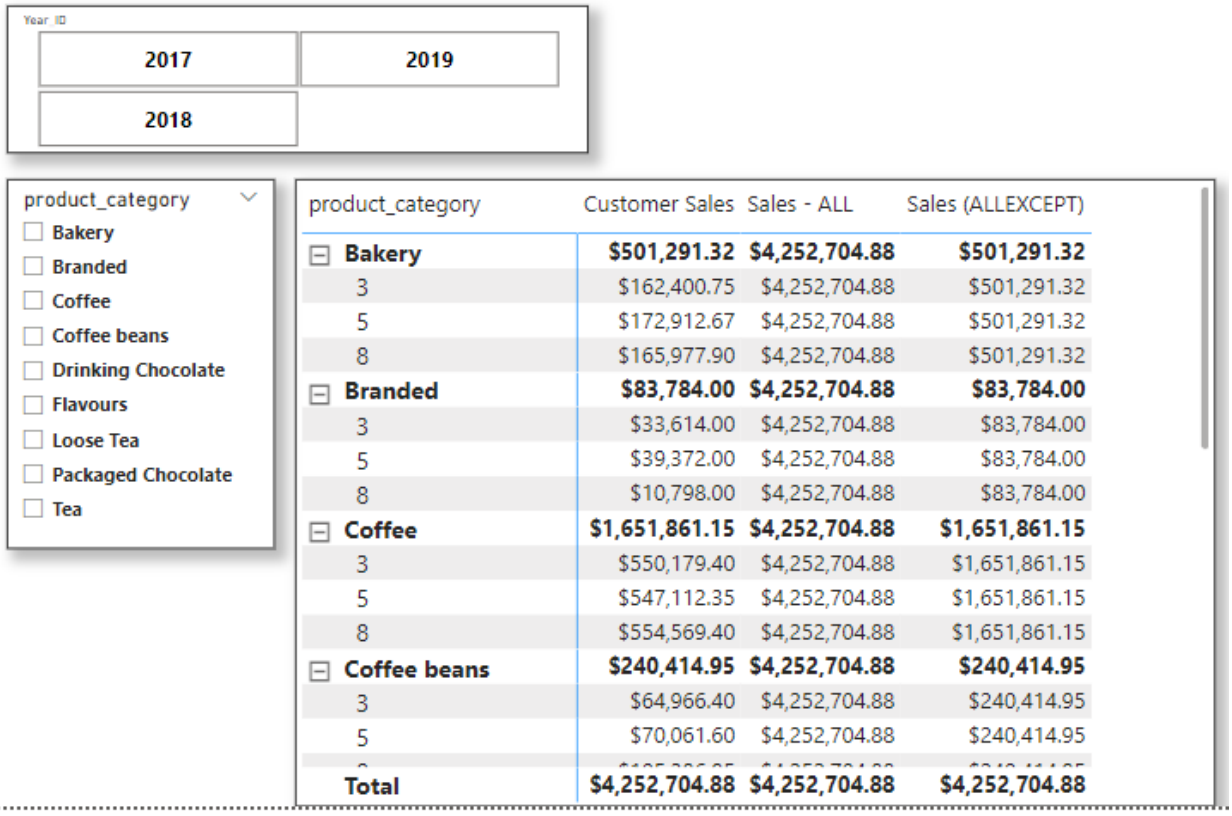
ALLEXCEPT

Removes all filters except specified column

In below case all filters are removed except Product Category and Transaction date. So values are changing for product category but not for store id.

Use Case: Calculate Percentage of sales in each store of overall sales of a particular product. E.g. What Percentage of Coffee sales has store 3 contributed?

```
Sales - ALLEXCEPT =
 CALCULATE(
        [Customer Sales],
        ALLEXCEPT('Sales by Store','Product
Lookup'[product_category],'Calendar'[Transaction_Date])
 )
```



product_category	Customer Sales	Sales - ALL	Sales (ALLEXCEPT)
Bakery	**$501,291.32**	**$4,252,704.88**	**$501,291.32**
3	$162,400.75	$4,252,704.88	$501,291.32
5	$172,912.67	$4,252,704.88	$501,291.32
8	$165,977.90	$4,252,704.88	$501,291.32
Branded	**$83,784.00**	**$4,252,704.88**	**$83,784.00**
3	$33,614.00	$4,252,704.88	$83,784.00
5	$39,372.00	$4,252,704.88	$83,784.00
8	$10,798.00	$4,252,704.88	$83,784.00
Coffee	**$1,651,861.15**	**$4,252,704.88**	**$1,651,861.15**
3	$550,179.40	$4,252,704.88	$1,651,861.15
5	$547,112.35	$4,252,704.88	$1,651,861.15
8	$554,569.40	$4,252,704.88	$1,651,861.15
Coffee beans	**$240,414.95**	**$4,252,704.88**	**$240,414.95**
3	$64,966.40	$4,252,704.88	$240,414.95
5	$70,061.60	$4,252,704.88	$240,414.95
Total	**$4,252,704.88**	**$4,252,704.88**	**$4,252,704.88**