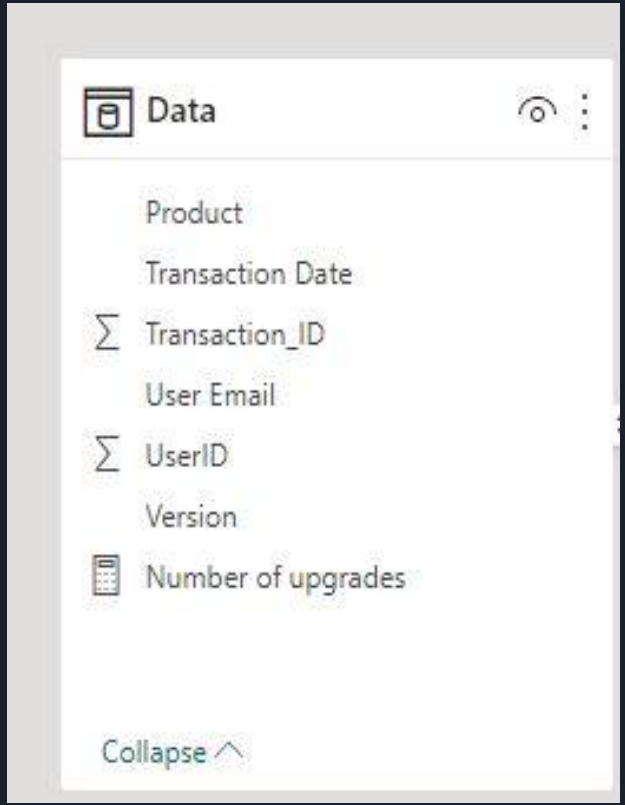
# DAX CHALLENGE

# Problem Statement

**Show total number of users who upgraded from Basic to Professional Service by month & Year**

# Given Transaction Table



# Expected Output

**Expected Output**

| Month-Year | Upgrades |
|---|---|
| Aug-2019 | 1 |
| Sep-2019 | 2 |
| Oct-2019 | 4 |
| Nov-2019 | 4 |
| Dec-2019 | 6 |
| Jan-2020 | 12 |
| Feb-2020 | 2 |
| Mar-2020 | 13 |
| Apr-2020 | 16 |
| May-2020 | 2 |
| Jun-2020 | 8 |
| Jul-2020 | 1 |
| **Total** | **71** |

```
Number of upgrades =
VAR ItsBaseTablePM=
    CALCULATETABLE(
        SUMMARIZE(Data,
            Data[Product],
            Data[UserID]
        ),
        Data[Version]="Base Version",
        PREVIOUSMONTH('Date'[Date])
)
VAR PrfVersionTable=
    CALCULATETABLE(
        SUMMARIZE(Data,
            Data[Product],
            Data[UserID]
        ),
        Data[Version]="Professional Version"

    )

RETURN
   COUNTROWS(PrfVersionTable)
```

# Output using INTERSECT between two Tables

| Date (bins) | Number of upgrades |
|---|---|
| August 2019 | 1 |
| September 2019 | 2 |
| October 2019 | 4 |
| November 2019 | 4 |
| December 2019 | 6 |
| January 2020 | 12 |
| February 2020 | 2 |
| March 2020 | 13 |
| April 2020 | 16 |
| May 2020 | 2 |
| June 2020 | 8 |
| July 2020 | 1 |
| **Total** | |

```
Number of upgrades =
SUMX(
    ADDCOLUMNS(
    SUMMARIZE(Data,
    'Date'[Date (bins)],
    Data[Product],
    Data[UserID]),
    "Service upgraded",
        VAR ItsBaseTablePM=
            CALCULATETABLE(
                SUMMARIZE(Data,
                    Data[Product],
                    Data[UserID]
            ),
        Data[Version]="Base Version",
        PREVIOUSMONTH('Date'[Date])
)
VAR PrfVersionTable=
    CALCULATETABLE(
        SUMMARIZE(Data,
            Data[Product],
            Data[UserID]
        ),
        Data[Version]="Professional Version")
RETURN
   COUNTROWS(INTERSECT(ItsBaseTablePM,PrfVersionTable))),[Service upgraded])
```

# Calculated Result

| Date | Number of upgrades |
|---|---|
| August 2019 | 1 |
| September 2019 | 2 |
| October 2019 | 4 |
| November 2019 | 4 |
| December 2019 | 6 |
| January 2020 | 12 |
| February 2020 | 2 |
| March 2020 | 13 |
| April 2020 | 16 |
| May 2020 | 2 |
| June 2020 | 8 |
| July 2020 | 1 |
| **Total** | **71** |