

# P4 Exploratory Data Analysis on Space Exploration Missions using Power BI

## WEEK-2 REPORT

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### Step 1: Use DAX

Table view -> New Table ->

Date Table =

```
ADDCOLUMNS(  
    CALENDAR(MIN('space_missions'[Date]),MAX('space_missions'[Date])),  
    "Year", YEAR( [Date] ),  
    "Month", FORMAT([Date],"MMM"),  
    "Month Number", MONTH([Date])  
)
```

The screenshot shows the Power BI Desktop interface. The 'Table tools' ribbon is active, showing options like 'Mark as date table', 'Manage relationships', and 'New measure'. The DAX formula bar contains the following code:

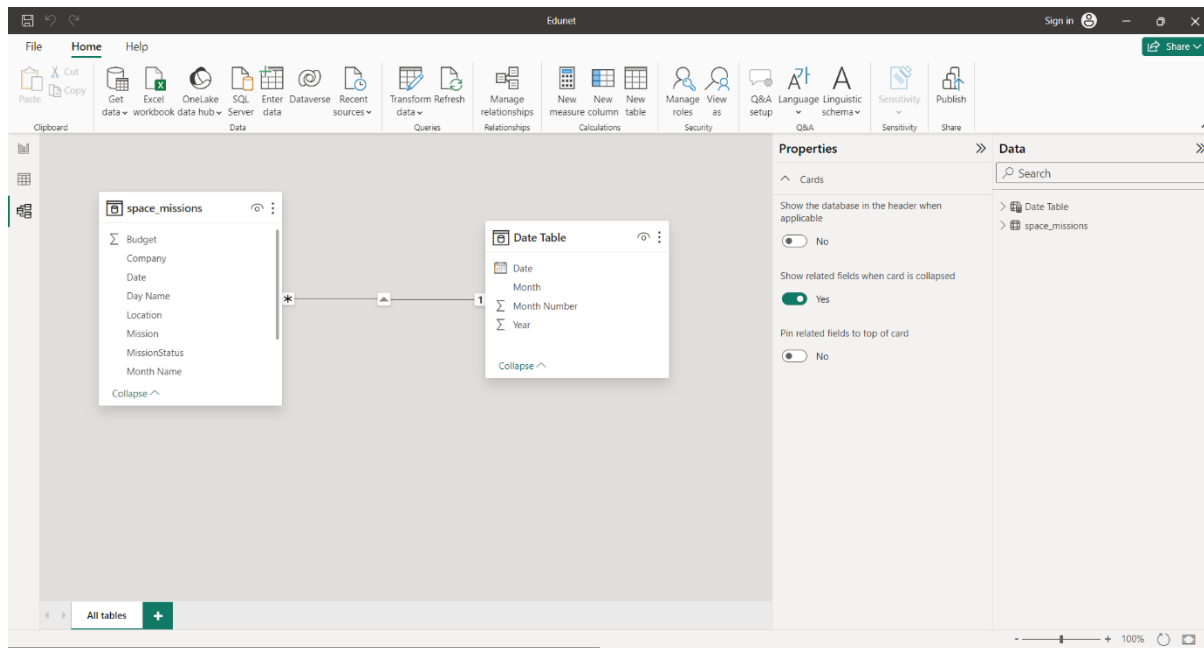
```
1 Date Table =  
2 ADDCOLUMNS(  
3     CALENDAR(MIN('space_missions'[Date]),MAX('space_missions'[Date])),  
4     "Year", YEAR( [Date] ),  
5     "Month", FORMAT([Date],"MMM"),  
6     "Month Number", MONTH([Date])  
7 )  
8
```

The preview table below the formula bar shows the following data:

Date	Year	Month	Month Number
01-10-1964 00:00:00	1964	Oct	10
02-10-1964 00:00:00	1964	Oct	10
03-10-1964 00:00:00	1964	Oct	10
04-10-1964 00:00:00	1964	Oct	10
05-10-1964 00:00:00	1964	Oct	10
06-10-1964 00:00:00	1964	Oct	10
07-10-1964 00:00:00	1964	Oct	10
08-10-1964 00:00:00	1964	Oct	10
09-10-1964 00:00:00	1964	Oct	10
10-10-1964 00:00:00	1964	Oct	10
11-10-1964 00:00:00	1964	Oct	10
12-10-1964 00:00:00	1964	Oct	10
13-10-1964 00:00:00	1964	Oct	10
14-10-1964 00:00:00	1964	Oct	10
15-10-1964 00:00:00	1964	Oct	10
16-10-1964 00:00:00	1964	Oct	10
17-10-1964 00:00:00	1964	Oct	10
18-10-1964 00:00:00	1964	Oct	10
19-10-1964 00:00:00	1964	Oct	10
20-10-1964 00:00:00	1964	Oct	10
21-10-1964 00:00:00	1964	Oct	10
22-10-1964 00:00:00	1964	Oct	10

Table: Date Table (21,151 rows)

## Step 2: open model view -> And derive date table from date of space missions table



## Step 3: Create measures

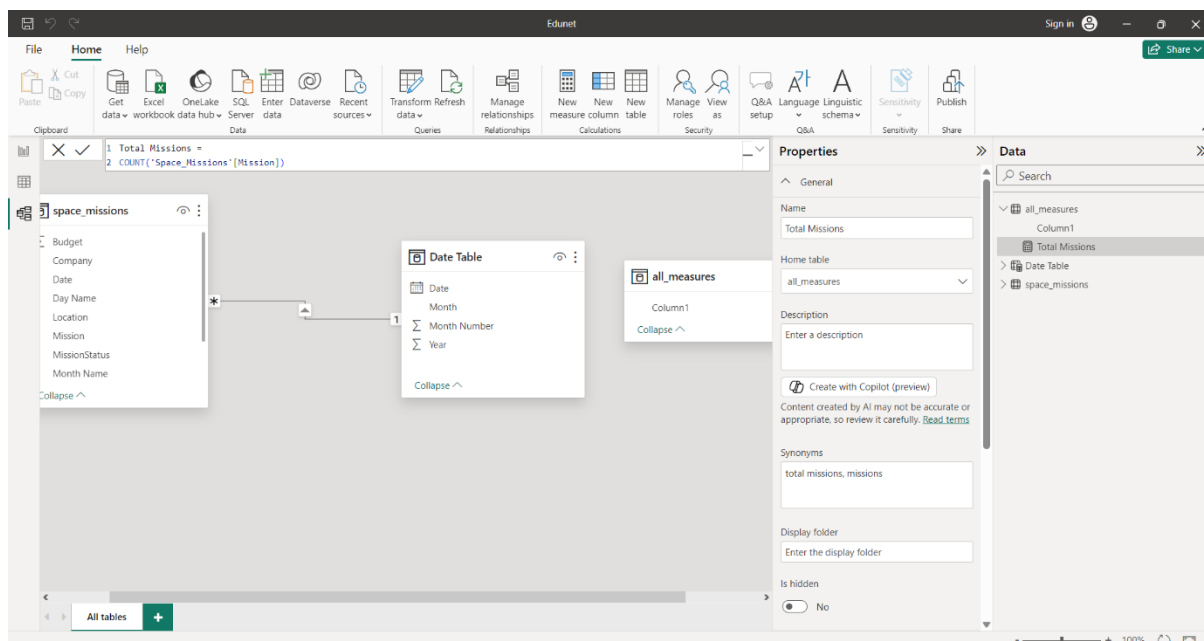
New measure -> name it as 'all\_measures' -> load

Click on the three dots of 'all\_measures' -> new column

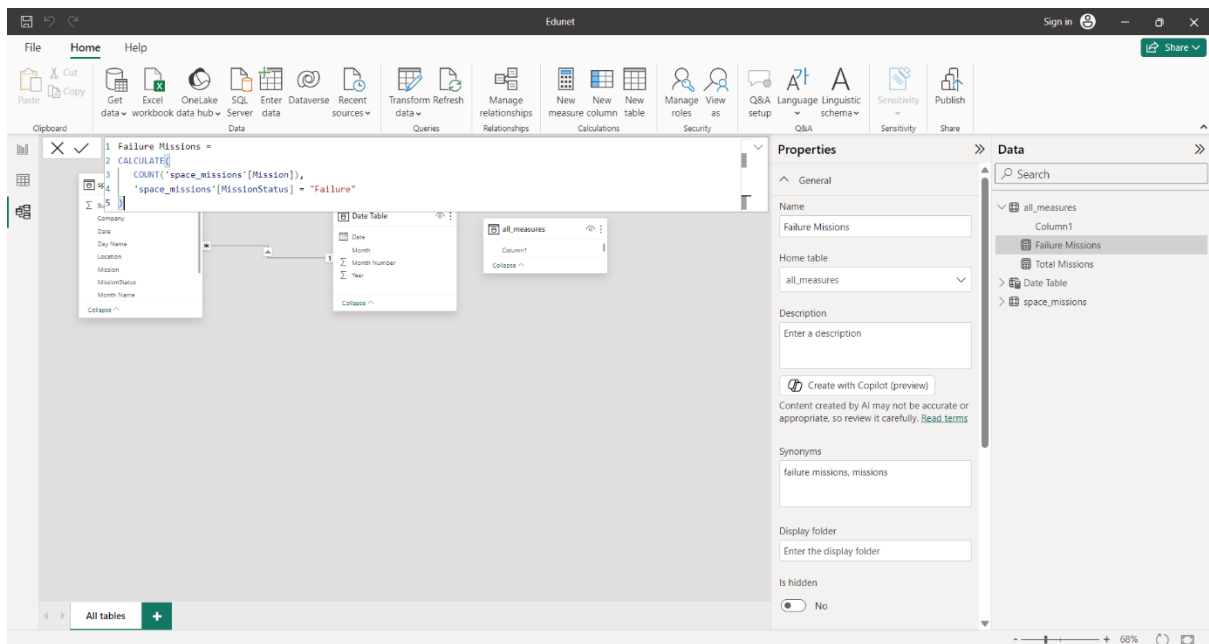
Click on the three dots of new column -> new measure

Create measures for:

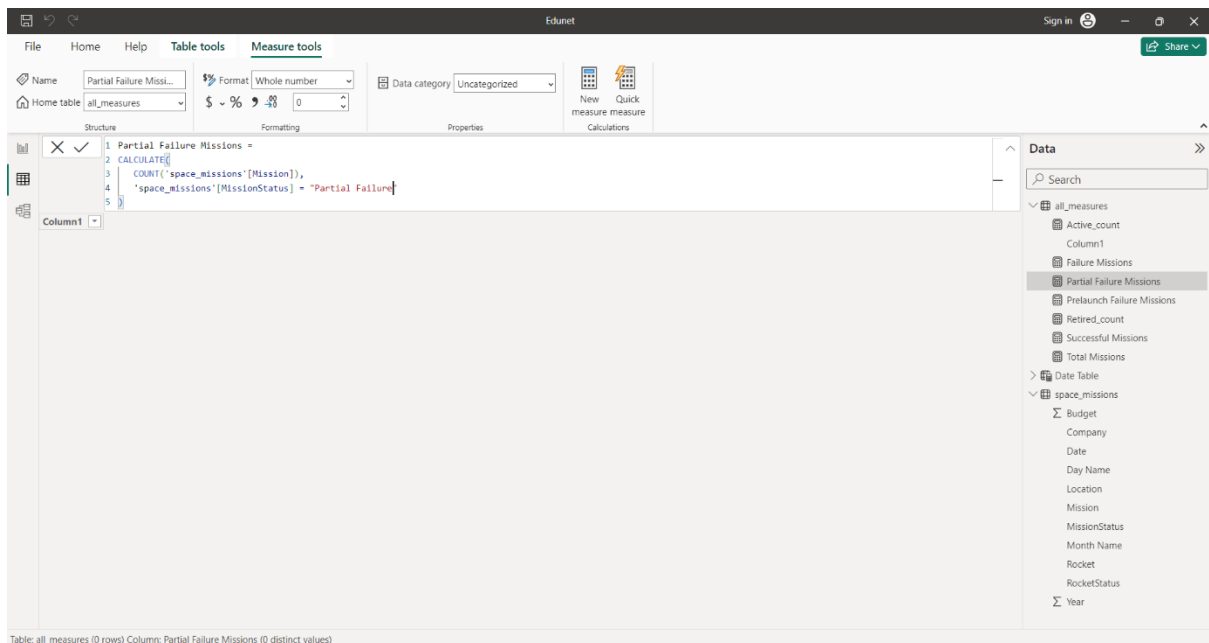
Total Missions =  
`COUNT('Space_Missions'[Mission])`



Failure Missions =  
**CALCULATE**(  
 COUNT('space\_missions'[Mission]),  
 'space\_missions'[MissionStatus] = "Failure"  
 )



Partial Failure Missions =  
**CALCULATE**(  
 COUNT('space\_missions'[Mission]),  
 'space\_missions'[MissionStatus] = "Partial Failure"  
 )



Prelaunch Failure Missions =

```
CALCULATE(  
COUNT('space_missions'[Mission]),  
    'space_missions'[MissionStatus] = "Prelaunch Failure"  
)
```

The screenshot shows the Microsoft Power BI Desktop interface. The 'Measure tools' tab is active. The 'Name' field is set to 'Prelaunch Failure ...'. The 'Home table' is 'all\_measures'. The 'Format' is 'Whole number'. The 'Data category' is 'Uncategorized'. The 'Structure' pane shows the DAX formula for 'Prelaunch Failure Missions':

```
1 Prelaunch Failure Missions =  
2 CALCULATE(  
3     COUNT('space_missions'[Mission]),  
4     'space_missions'[MissionStatus] = "Prelaunch Failure"  
5 )
```

The 'Data' pane on the right shows the 'all\_measures' table with columns: Active\_count, Column1, Failure Missions, Partial Failure Missions, Prelaunch Failure Missions (selected), Retired\_count, Successful Missions, and Total Missions. The 'space\_missions' table is also visible with columns: Budget, Company, Date, Day Name, Location, Mission, MissionStatus, Month Name, Rocket, RocketStatus, and Year.

Table: all\_measures (0 rows) Column: Prelaunch Failure Missions (0 distinct values)

Successful Missions =

```
CALCULATE(  
COUNT('space_missions'[Mission]),  
    'space_missions'[MissionStatus] = "Success"  
)
```

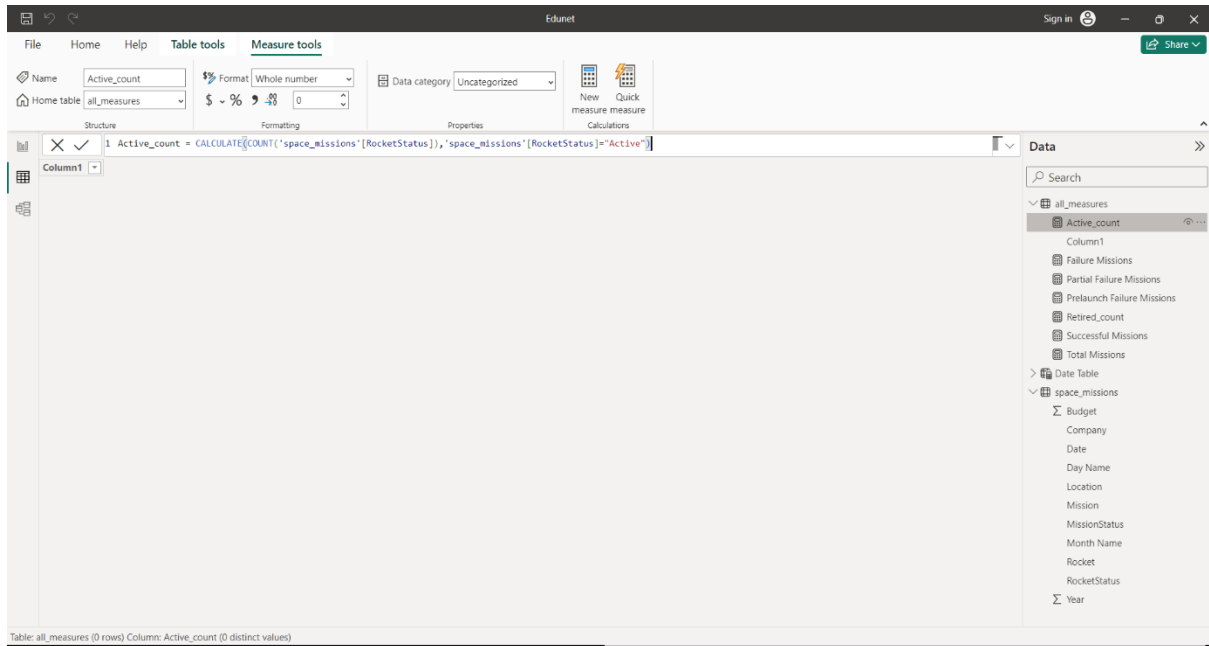
The screenshot shows the Microsoft Power BI Desktop interface. The 'Measure tools' tab is active. The 'Name' field is set to 'Successful Missions'. The 'Home table' is 'all\_measures'. The 'Format' is 'Whole number'. The 'Data category' is 'Uncategorized'. The 'Structure' pane shows the DAX formula for 'Successful Missions':

```
1 Successful Missions =  
2 CALCULATE(  
3     COUNT('space_missions'[Mission]),  
4     'space_missions'[MissionStatus] = "Success"  
5 )
```

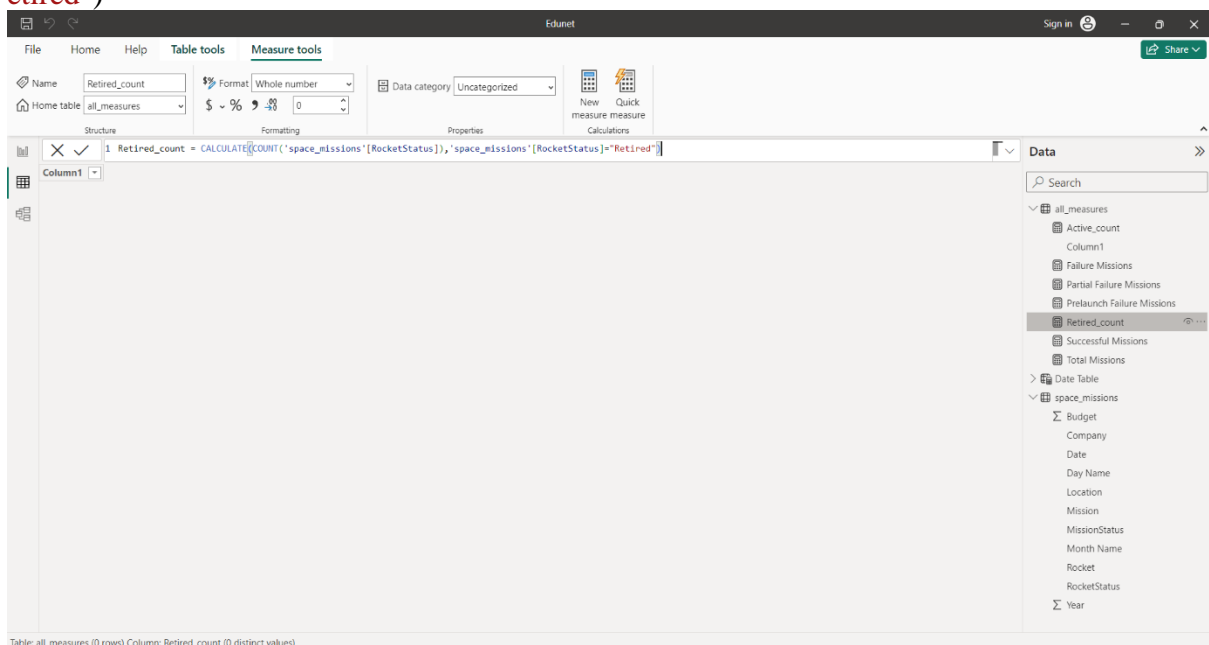
The 'Data' pane on the right shows the 'all\_measures' table with columns: Active\_count, Column1, Failure Missions, Partial Failure Missions, Prelaunch Failure Missions, Retired\_count, Successful Missions (selected), and Total Missions. The 'space\_missions' table is also visible with columns: Budget, Company, Date, Day Name, Location, Mission, MissionStatus, Month Name, Rocket, RocketStatus, and Year.

Table: all\_measures (0 rows) Column: Successful Missions (0 distinct values)

Active\_count =  
`CALCULATE(COUNT('space_missions'[RocketStatus]),'space_missions'[RocketStatus]="Active")`



Retired\_count =  
`CALCULATE(COUNT('space_missions'[RocketStatus]),'space_missions'[RocketStatus]="Retired")`



#### Step 4: Create visuals using Card for each measure

