BUSINESS RELATED DAX & FORECASTING ANALYSES

Session-8

Farha Imthiyaz,

BSc (Hons) in Software Engineering (Solent University, UK),

MS in Data Science (Reading) (NED University of Engineering & Technology, Karachi)

ROAD MAP

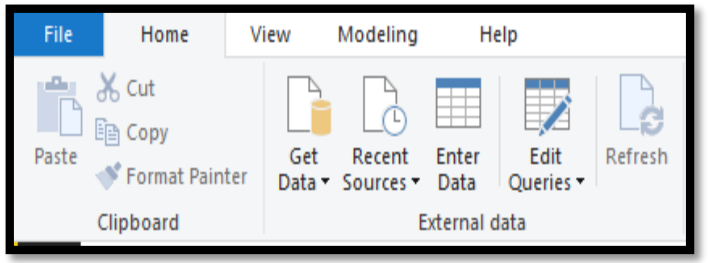
1. Introduction
2. Sales, Business Related dax functions (Step 1- 4)
3. Forecasting Analysis (2 Analysis)
4. Home Work

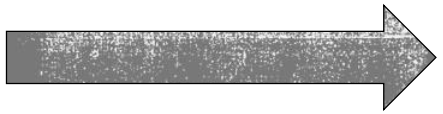
INTRODUCTION

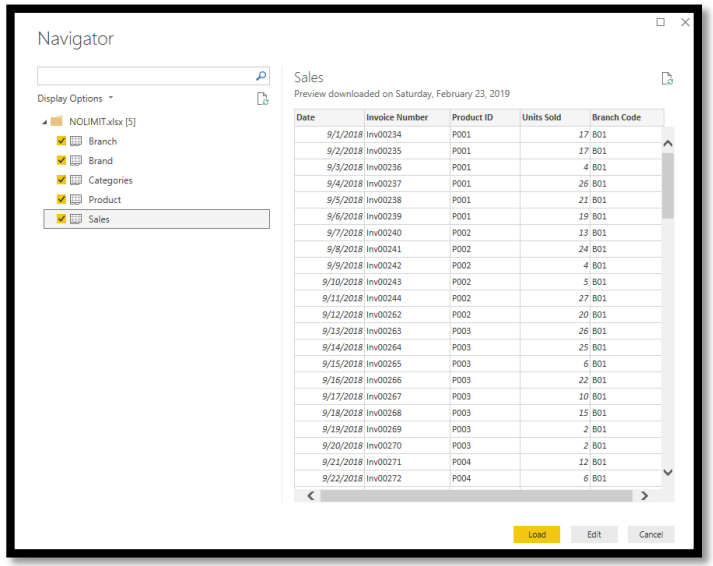
- We are using for this practical NOLIMIT data.
- Follow the following steps

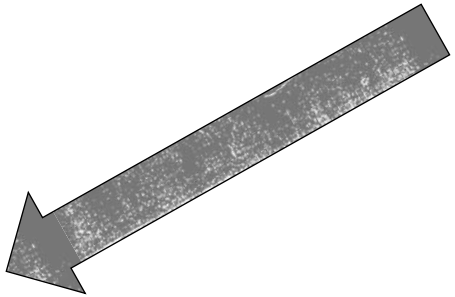
SALES, BUSINESS RELATED DAX FUNCTIONS

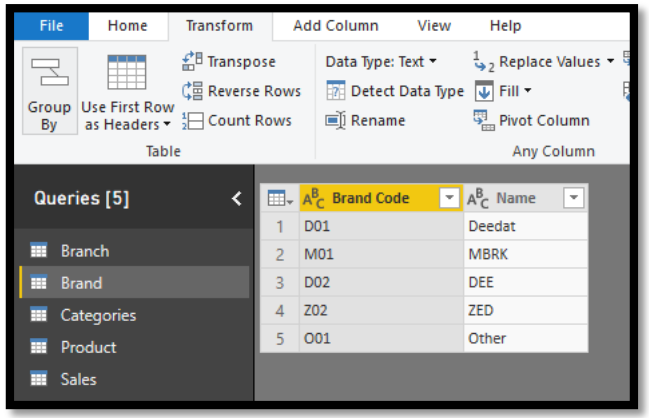
1. IMPORT DATA FROM FILE, THEN TRANSFORM & LOAD











2. CALCULATE THE SALE IN NEW COLUMN

- To identify the sale first we need identify real selling price of each product (sale reduced by discount). The, we have to multiply that with total units.
- In here discount is in discount percentage. So, we are multiply by discount percentage by selling price of each product. then we can get each product discount price. Then, we reduce discount from selling price. Then we get real selling price (Final Price) for each product.
- After that, we have to create new Sale Colum. for that, we have to multiply that final Price in to units sold in Sale Table.
- We have to create **Final Price** (real selling price of each product) column in **Product** Table & **Sale** Column in **Sales** Table.

A. CREATE FINAL PRICE COLUMN IN PRODUCT TABLE

```
1 Final Price = 'Product'[Selling Price]-'Product'[Selling Price]*'Product'[Discount]
```

Product ID	Product Name	ProductCategory	Brand	Selling Price	Cost Price	Discount	Final Price
P001	STRIPE COMBO T-SHIRT	W01	O01	1000	800	0.05	950
P002	SLEEVELESS CHAMBRAY SHIRT	W02	O02	1500	1100	0.1	1350
P003	PRINTED FLAIR SLEEVE TOP	W03	O03	1800	1400	0	1800
P004	FRONT SLIT CHAMBRAY KURTA	W04	O04	1200	850	0	1200
P005	DEEDAT T-SHIRT	M01	D01	890	700	0.05	845.5
P006	DEE TALKS T-SHIRT	M02	D01	900	600	0	900
P007	MBRK SHIRT	M03	M01	2000	1450	0	2000
P008	DEEDAT TROUSER	M04	D01	2500	1800	0	2500
P009	'ZED' T-SHIRTS	K01	Z01	1700	1100	0	1700
P010	TODDLER SHOES FOR BABY GIRLS	K02	O01	1300	800	0.01	1287

Fields

Search

- Branch
- Brand
- Categories
- Product
  - Brand
  - Cost Price
  - Discount
  - Final Price
  - Product ID
  - Product Name
  - ProductCategory
  - Selling Price
- ProfitPercentage
- Sales

B. CREATE SALE COLUMN IN SALES TABLE

```
1 Sale = Sales[Units Sold]*RELATED('Product'[Final Price])
```

Date	Invoice Number	Product ID	Units Sold	Branch Code	Sale	Profit
Saturday, September 1, 2018	Inv00234	P001	17	B01	16150	2550
Sunday, September 2, 2018	Inv00235	P001	17	B01	16150	2550
Monday, September 3, 2018	Inv00236	P001	4	B01	3800	600
Tuesday, September 4, 2018	Inv00237	P001	26	B01	24700	3900
Wednesday, September 5, 2018	Inv00238	P001	21	B01	19950	3150
Thursday, September 6, 2018	Inv00239	P001	19	B01	18050	2850
Friday, September 7, 2018	Inv00240	P002	13	B01	17550	3250
Saturday, September 8, 2018	Inv00241	P002	24	B01	32400	6000
Sunday, September 9, 2018	Inv00242	P002	4	B01	5400	1000
Monday, September 10, 2018	Inv00243	P002	5	B01	6750	1250
Tuesday, September 11, 2018	Inv00244	P002	27	B01	36450	6750
Wednesday, September 12, 2018	Inv00262	P002	20	B01	27000	5000
Thursday, September 13, 2018	Inv00263	P003	26	B01	46800	10400
Friday, September 14, 2018	Inv00264	P003	25	B01	45000	10000
Saturday, September 15, 2018	Inv00265	P003	6	B01	10800	2400
Sunday, September 16, 2018	Inv00266	P003	22	B01	39600	8800
Monday, September 17, 2018	Inv00267	P003	10	B01	18000	4000
Tuesday, September 18, 2018	Inv00268	P003	15	B01	27000	6000
Wednesday, September 19, 2018	Inv00269	P003	2	B01	3600	800
Thursday, September 20, 2018	Inv00270	P003	2	B01	3600	800

Fields

Search

- Branch
- Brand
- Categories
- Product
- ProfitPercentage
- Sales
  - Branch Code
  - Date
  - Invoice Number
  - Product ID
  - Profit
  - ProfitPercentage
  - Sale
  - Units Sold

3. CALCULATE THE PROFIT IN COLUMN

- To identify the Profit we have to reduce total cost price (units sold multiply by each cost price) from Sale.

```
1 Profit = Sales[Sale]-Sales[Units Sold]*RELATED('Product'[Cost Price])
```

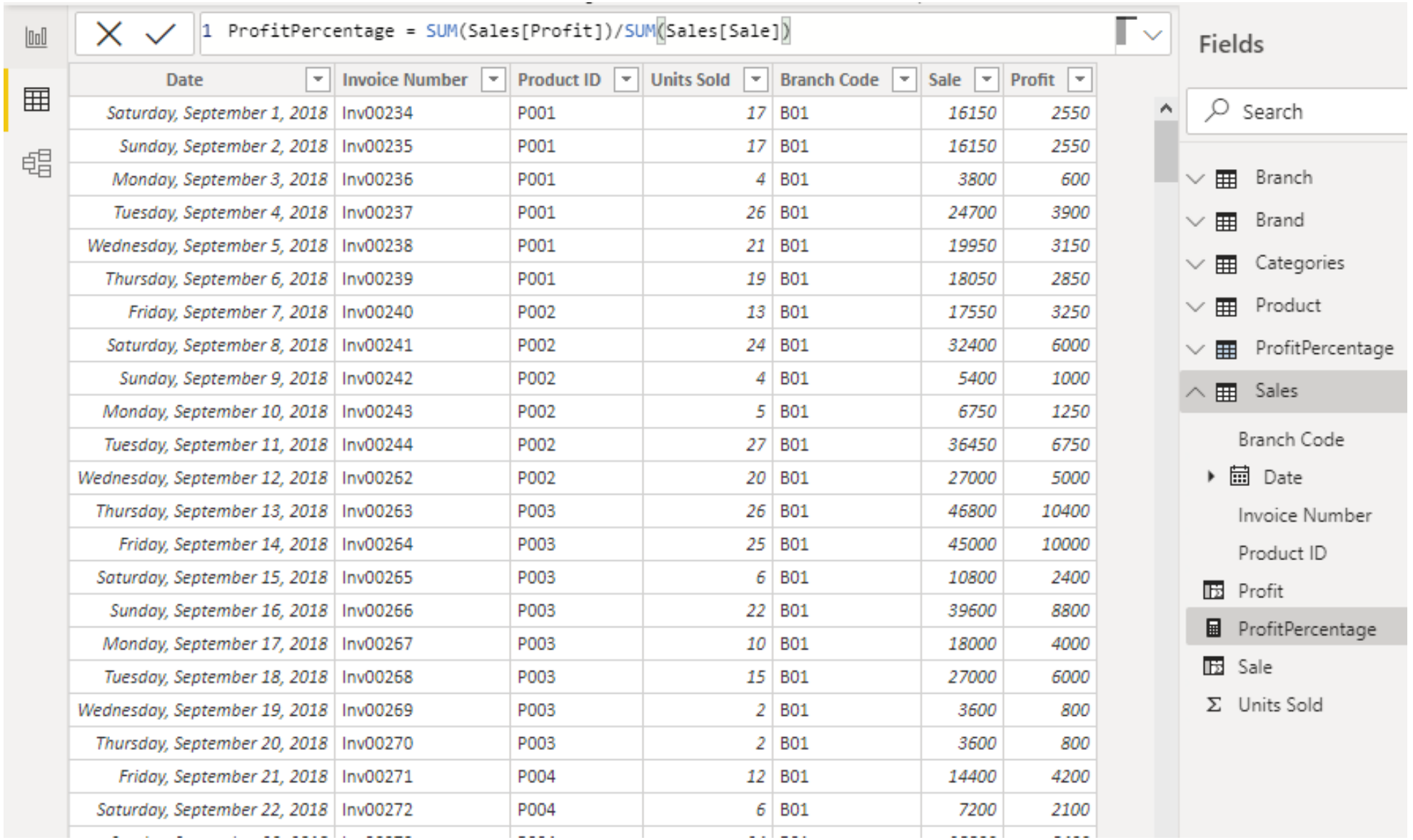
Date	Invoice Number	Product ID	Units Sold	Branch Code	Sale	Profit
Saturday, September 1, 2018	Inv00234	P001	17	B01	16150	2550
Sunday, September 2, 2018	Inv00235	P001	17	B01	16150	2550
Monday, September 3, 2018	Inv00236	P001	4	B01	3800	600
Tuesday, September 4, 2018	Inv00237	P001	26	B01	24700	3900
Wednesday, September 5, 2018	Inv00238	P001	21	B01	19950	3150
Thursday, September 6, 2018	Inv00239	P001	19	B01	18050	2850
Friday, September 7, 2018	Inv00240	P002	13	B01	17550	3250
Saturday, September 8, 2018	Inv00241	P002	24	B01	32400	6000
Sunday, September 9, 2018	Inv00242	P002	4	B01	5400	1000
Monday, September 10, 2018	Inv00243	P002	5	B01	6750	1250
Tuesday, September 11, 2018	Inv00244	P002	27	B01	36450	6750
Wednesday, September 12, 2018	Inv00262	P002	20	B01	27000	5000
Thursday, September 13, 2018	Inv00263	P003	26	B01	46800	10400
Friday, September 14, 2018	Inv00264	P003	25	B01	45000	10000
Saturday, September 15, 2018	Inv00265	P003	6	B01	10800	2400
Sunday, September 16, 2018	Inv00266	P003	22	B01	39600	8800
Monday, September 17, 2018	Inv00267	P003	10	B01	18000	4000
Tuesday, September 18, 2018	Inv00268	P003	15	B01	27000	6000
Wednesday, September 19, 2018	Inv00269	P003	2	B01	3600	800

Fields

Search

- Branch
- Brand
- Categories
- Product
- ProfitPercentage
- Sales
  - Branch Code
  - Date
  - Invoice Number
  - Product ID
  - Profit
  - ProfitPercentage
  - Sale
  - Units Sold

4. CALCULATE THE PROFIT PERCENTAGE IN MEASURE



```
1 ProfitPercentage = SUM(Sales[Profit])/SUM(Sales[Sale])
```

Date	Invoice Number	Product ID	Units Sold	Branch Code	Sale	Profit
Saturday, September 1, 2018	Inv00234	P001	17	B01	16150	2550
Sunday, September 2, 2018	Inv00235	P001	17	B01	16150	2550
Monday, September 3, 2018	Inv00236	P001	4	B01	3800	600
Tuesday, September 4, 2018	Inv00237	P001	26	B01	24700	3900
Wednesday, September 5, 2018	Inv00238	P001	21	B01	19950	3150
Thursday, September 6, 2018	Inv00239	P001	19	B01	18050	2850
Friday, September 7, 2018	Inv00240	P002	13	B01	17550	3250
Saturday, September 8, 2018	Inv00241	P002	24	B01	32400	6000
Sunday, September 9, 2018	Inv00242	P002	4	B01	5400	1000
Monday, September 10, 2018	Inv00243	P002	5	B01	6750	1250
Tuesday, September 11, 2018	Inv00244	P002	27	B01	36450	6750
Wednesday, September 12, 2018	Inv00262	P002	20	B01	27000	5000
Thursday, September 13, 2018	Inv00263	P003	26	B01	46800	10400
Friday, September 14, 2018	Inv00264	P003	25	B01	45000	10000
Saturday, September 15, 2018	Inv00265	P003	6	B01	10800	2400
Sunday, September 16, 2018	Inv00266	P003	22	B01	39600	8800
Monday, September 17, 2018	Inv00267	P003	10	B01	18000	4000
Tuesday, September 18, 2018	Inv00268	P003	15	B01	27000	6000
Wednesday, September 19, 2018	Inv00269	P003	2	B01	3600	800
Thursday, September 20, 2018	Inv00270	P003	2	B01	3600	800
Friday, September 21, 2018	Inv00271	P004	12	B01	14400	4200
Saturday, September 22, 2018	Inv00272	P004	6	B01	7200	2100

Fields

Search

- Branch
- Brand
- Categories
- Product
- ProfitPercentage
- Sales
  - Branch Code
  - Date
  - Invoice Number
  - Product ID
  - Profit
  - ProfitPercentage
  - Sale
  - Units Sold

FORECASTING ANALYSIS

In here, We will discuss 2 Analysis. They are

A. Predictive Analysis

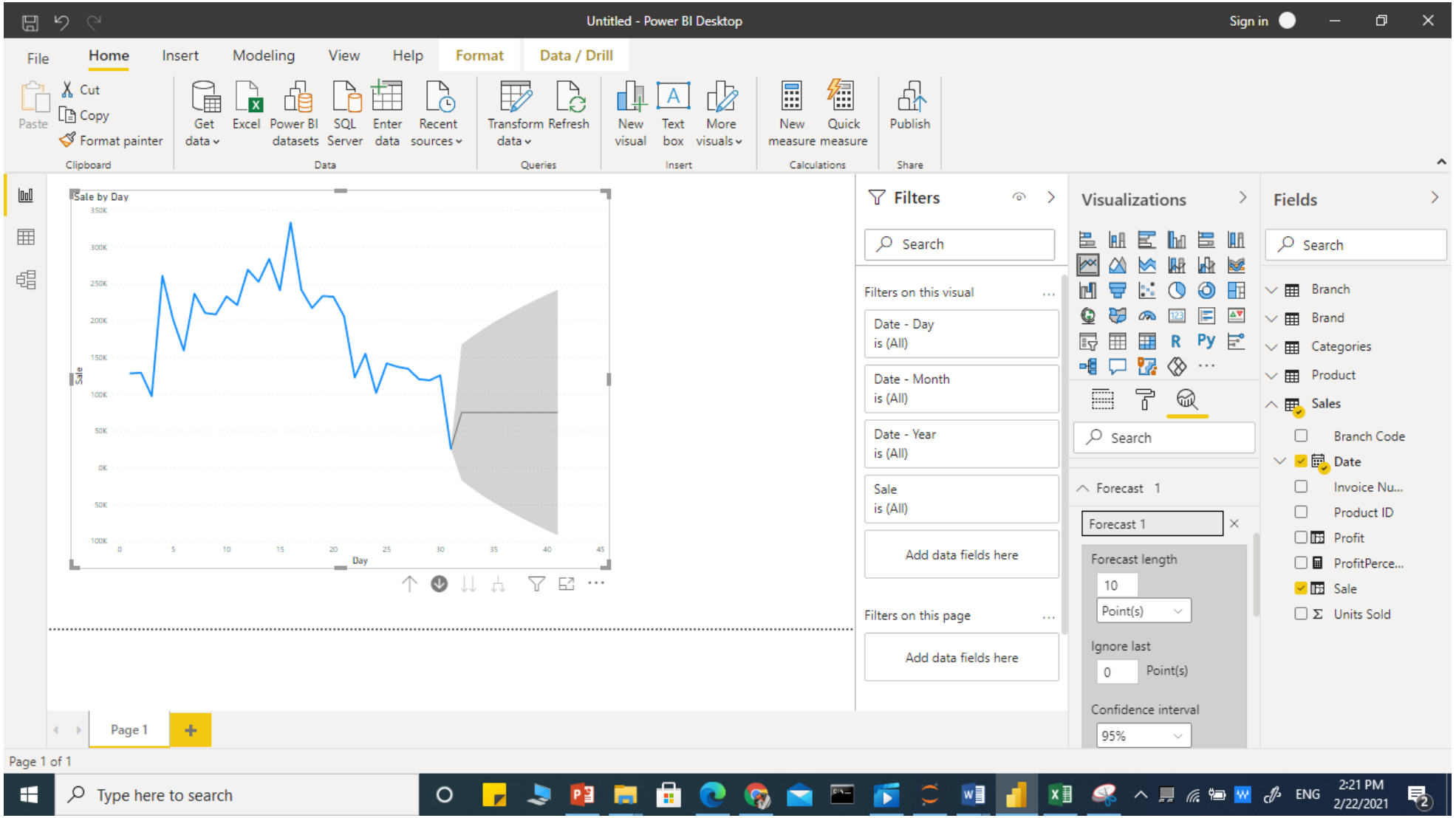
B. What-if Analysis

A. PREDICTIVE ANALYSIS

- Create Table with Date and Sale from Sales Table
- Change it as Line Chart

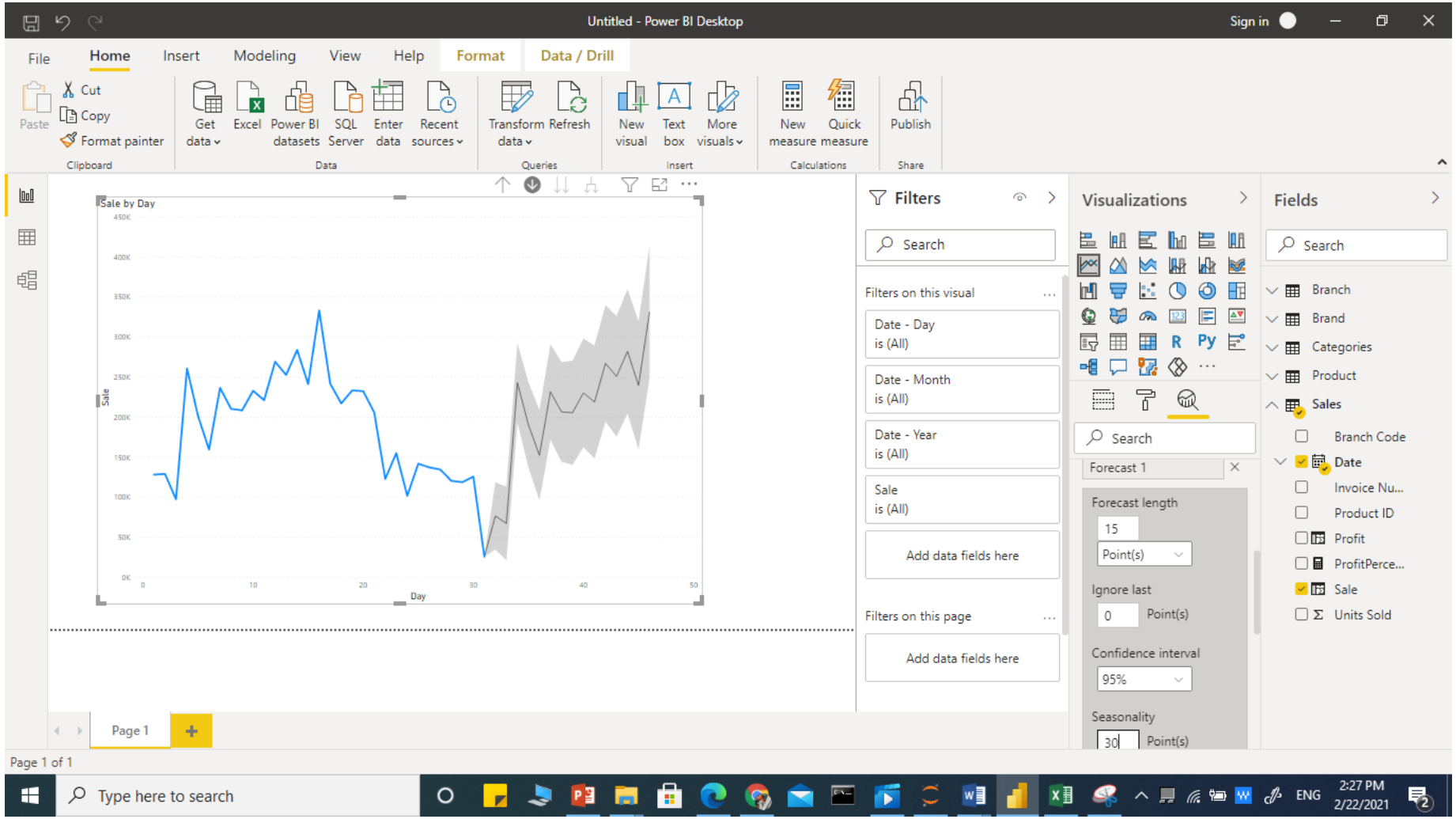
A. PREDICTIVE ANALYSIS- CONT..

- In Analytics of Line Chart we have to add forecast.



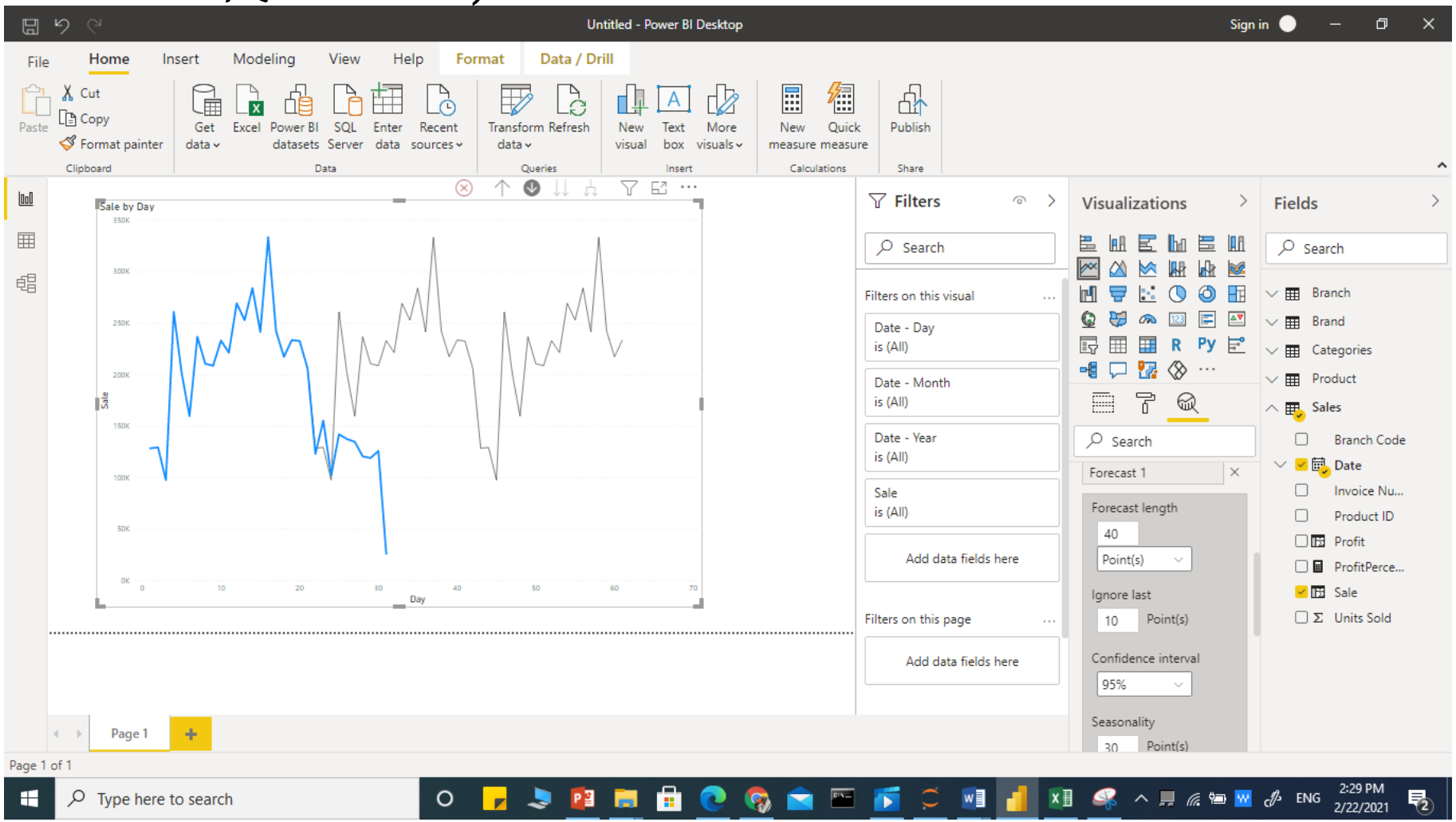
A. PREDICTIVE ANALYSIS- CONT..

- In forecast there is option call forecast length we can set the how many points we need to forecast (days, months, quarter, year)



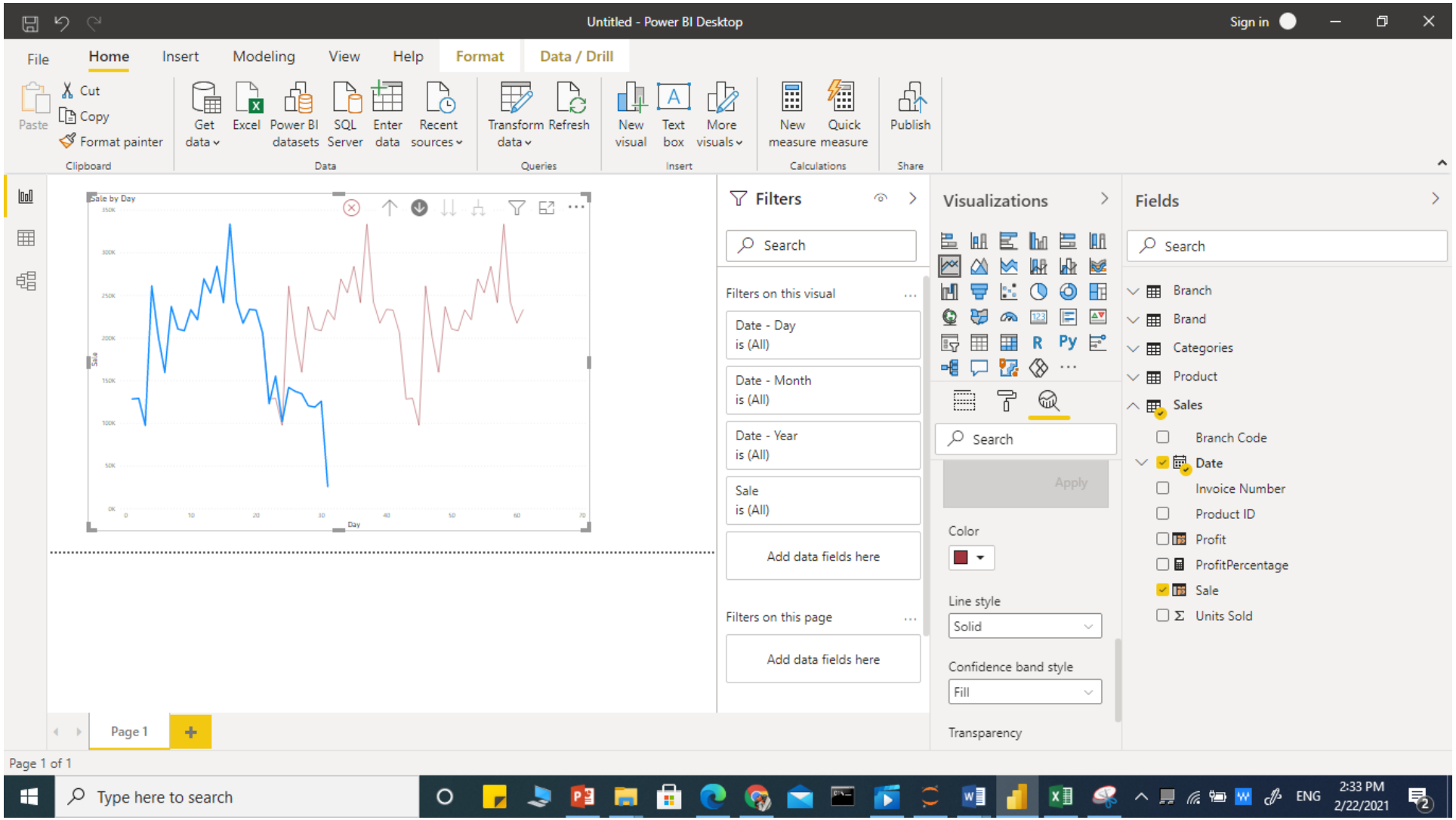
A. PREDICTIVE ANALYSIS- CONT..

- In forecast there is option call Ignore last from that we move to front ward by specific points. Also we can set confidentiality (confidence interval) and seasonality by frequency or as your wish(days→ 365, months→12, Quarter →4)



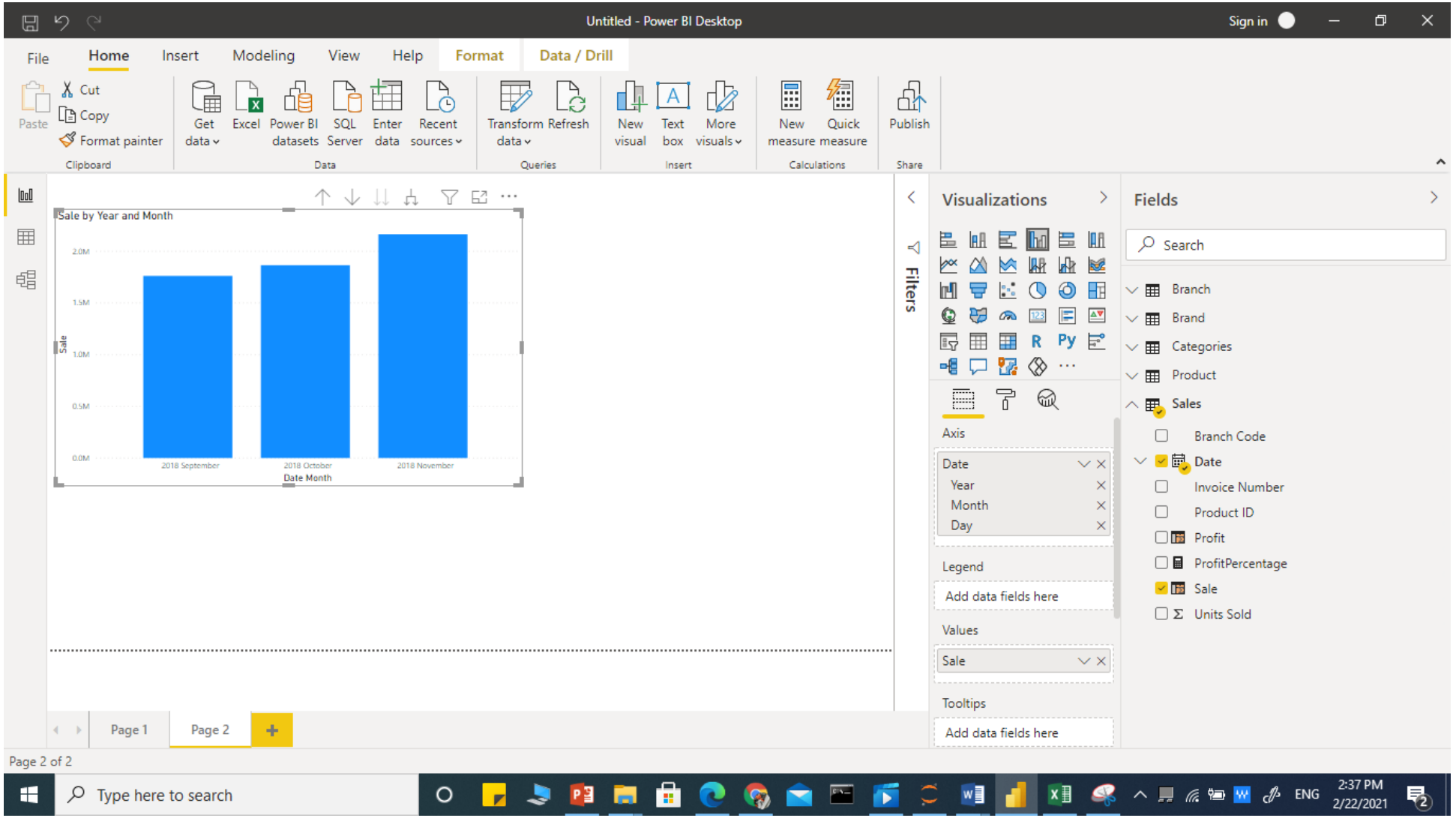
A. PREDICTIVE ANALYSIS-CONT..

- In here, we can set color and design and etc.



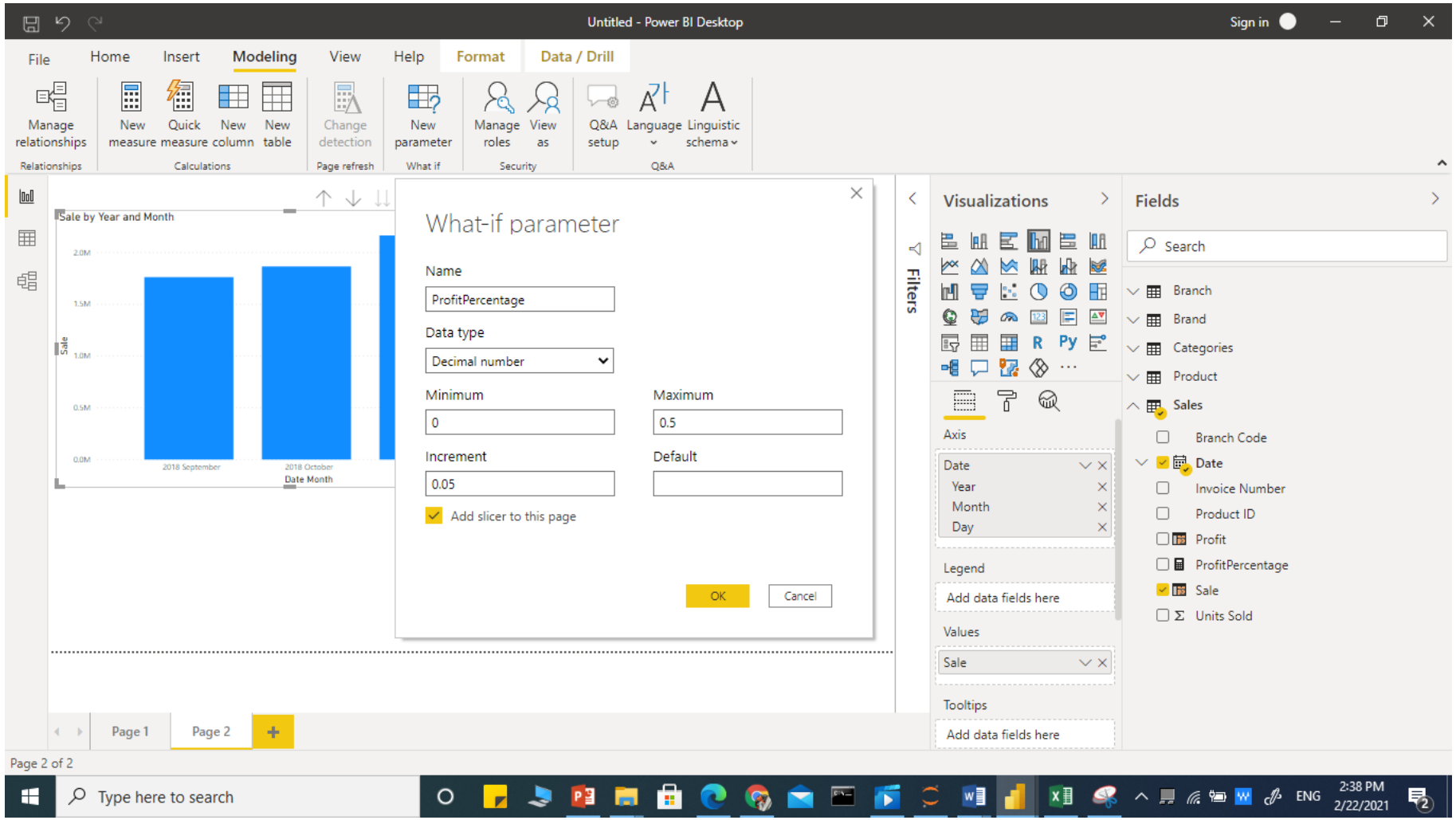
B. WHAT-IF ANALYSIS

- Create a Clustered column chart by date and sale from Sales Table



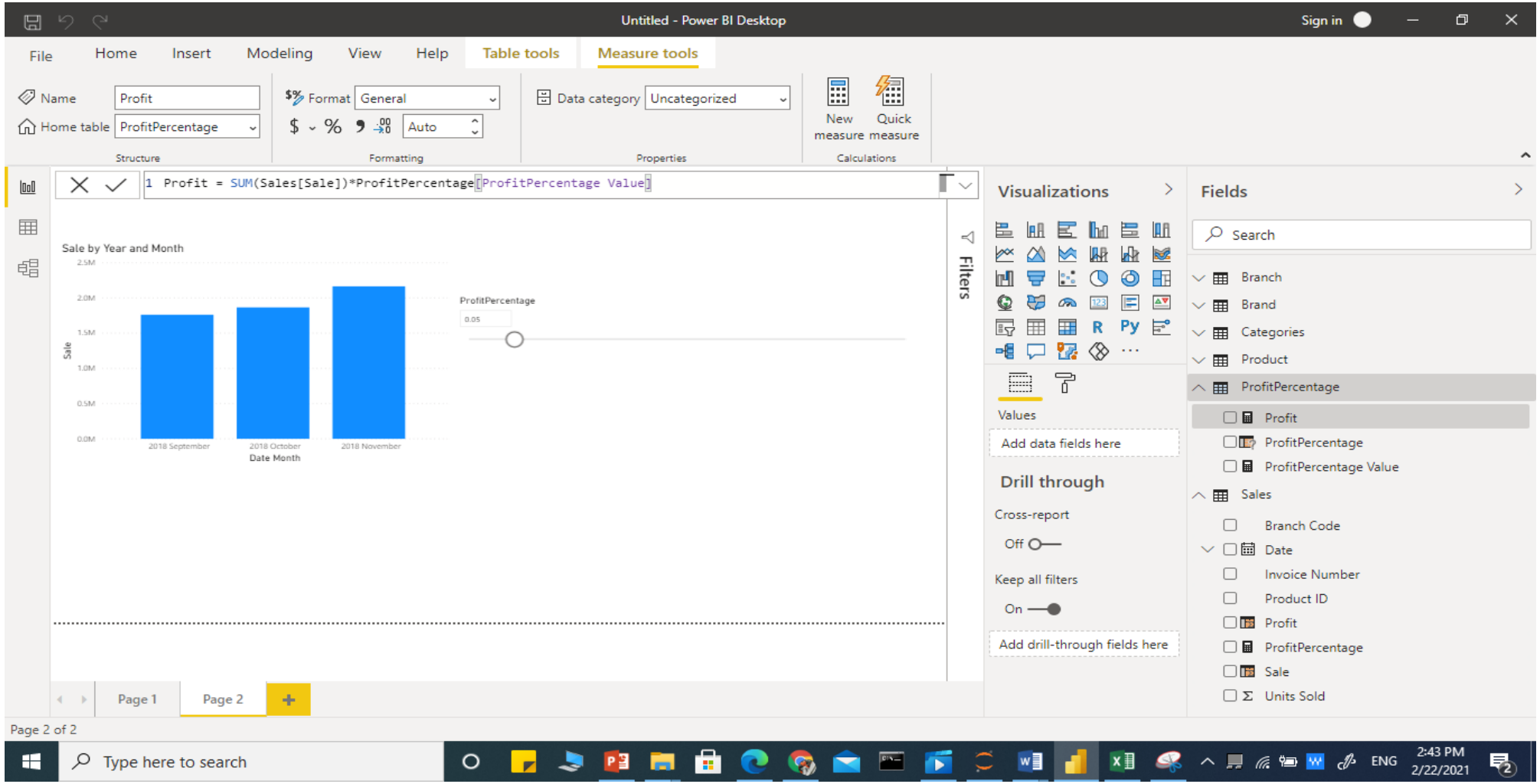
B. WHAT-IF ANALYSIS-CONT..

- We have to create a new Parameter (ProfitPercentage) which is What if Parameter from Modelling section. The, Select Data type, Minimum value, ,maximum value and increment value. Then, there is a slicer will be added.



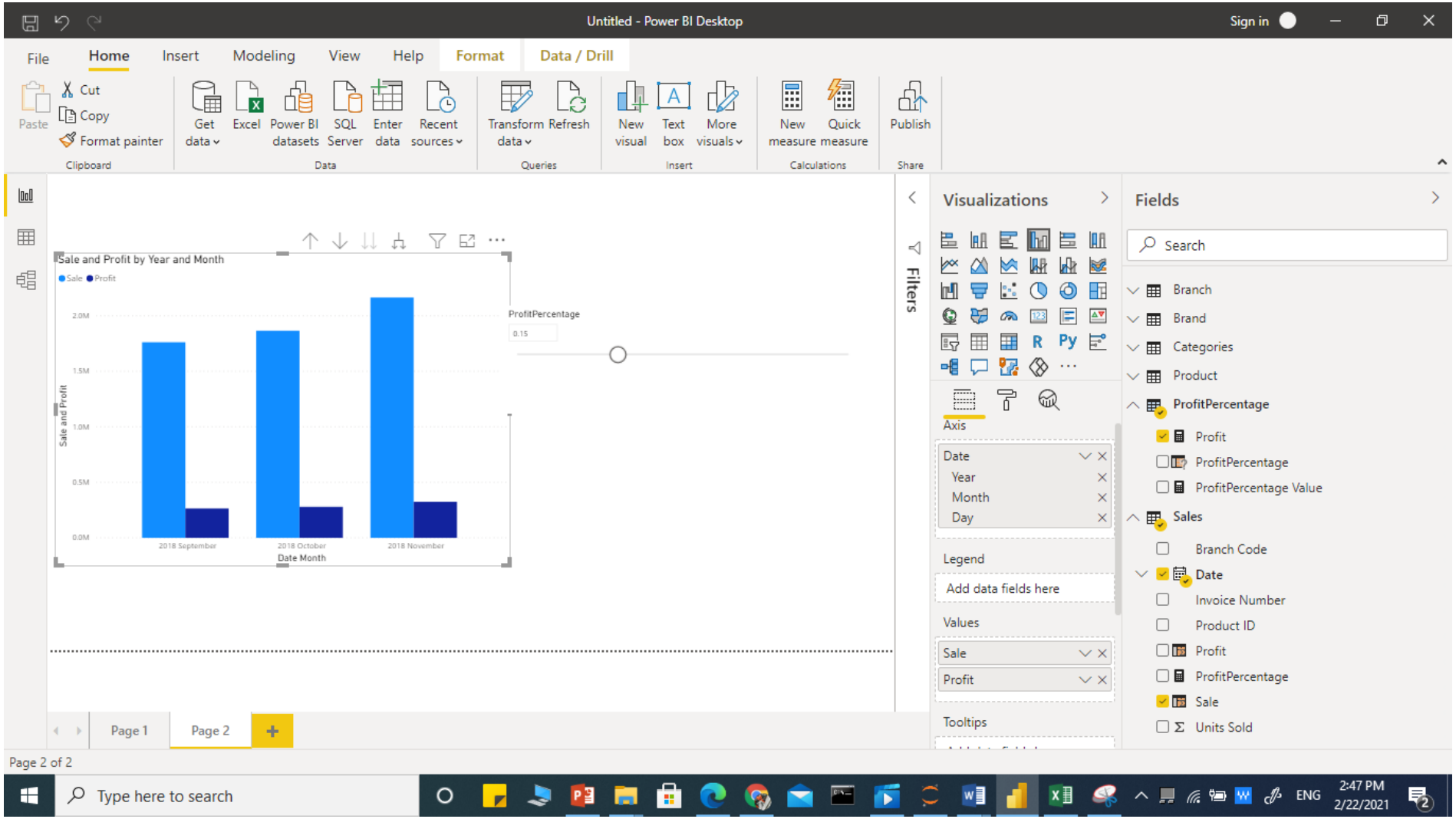
B. WHAT-IF ANALYSIS-CONT..

- We have create a Profit measure from ProfitPercentage Value multiply by sale from Sales table(When we creating a what if parameter automatically it will create a measure, in my case ProfitPercentage Value). We have create it same ProfitPercentage Table.



B. WHAT-IF ANALYSIS-CONT..

- then, we are adding that profit in to chart values. From changing the values of the slicer we can check Profit changes.



4. HOME WORK

- Create 5 Pages Dashboard with same NOLIMIT Data.
- You have to use Predictive and What if Analysis
- You can create DAX functions & interactive Visualizations as your wish.

THANK
YOU