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BSCS | FAST NUCES

Power BI

For Titanic Dataset Exploration

Introduction

Power BI is a Microsoft's self-service BI platform for both on both premise and cloud-based data.

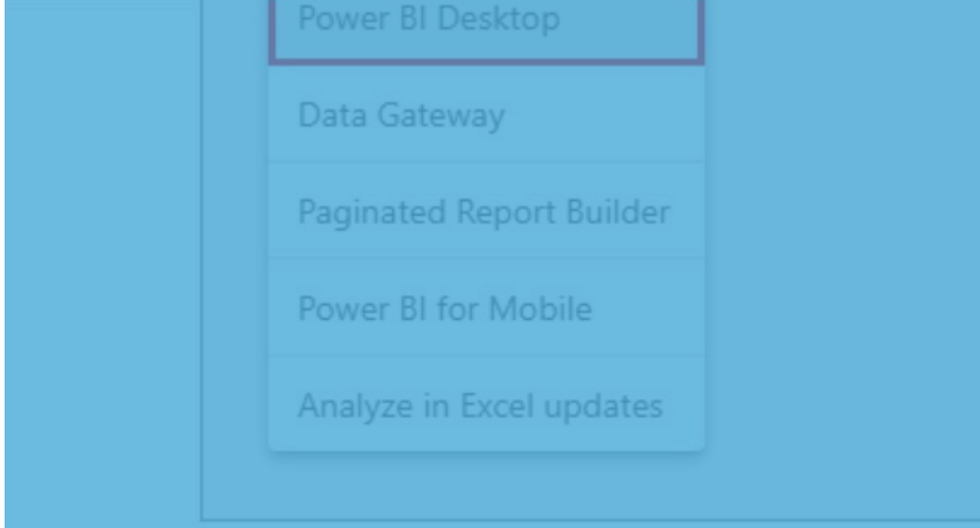
It is a business analytics tool used mainly for interactive visualizations i.e. to display charts and dashboards and create reports. It can also be used to clean up data and write DAX (Data Analysis eXpressions) formulas.

Download/Install configuration

You can download from this link
https://powerbi.microsoft.com/en-us/desktop/

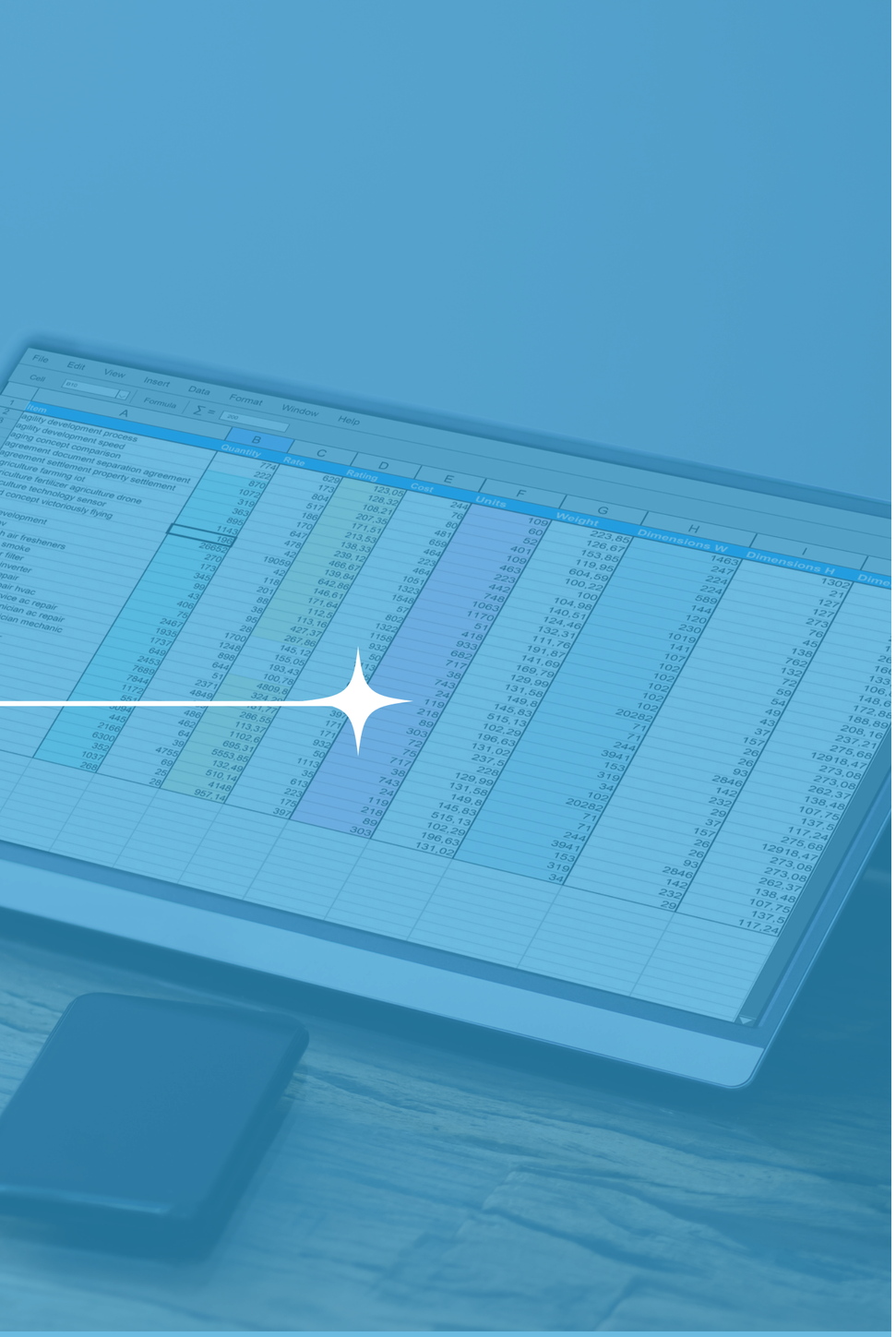
Installation is simple as you do for other software’s

No need to login



- Go to the Power BI Desktop product page, then select **Download Free**.

2. After you've landed on the **Power BI Desktop** page the Microsoft Store, select **Install**.



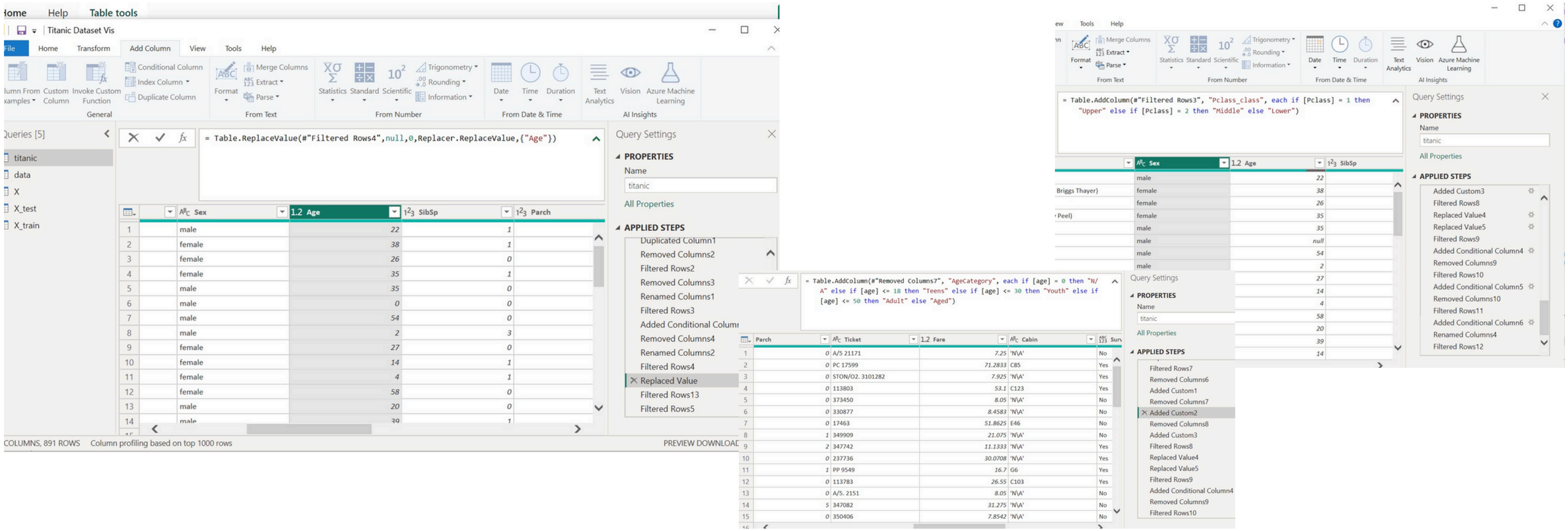
Dataset --- Titanic

- Rich data set with diverse variables
- Ideal platform for exploring relationships and identifying patterns
- Opportunity to practice DAX and Python for data transformation and analysis

Data Summary (i.e. columns):

Survival (0= No, 1 =Yes)
pclass/ticket class (1=1st, 2=2nd, 3=3rd)
sex (female, male)
age (in years)
sibsp (number of siblings/spouses aboard)
parch (number of parents/children aboard)
ticket number
fare
cabin number
embarked (port of embarkation; C = Cherbourg, Q= Queenstown, S = Southampton)

Transformation using PQE



Data Cleansing

Remove inconsistencies, errors, and duplicates from your data.

Data Shaping

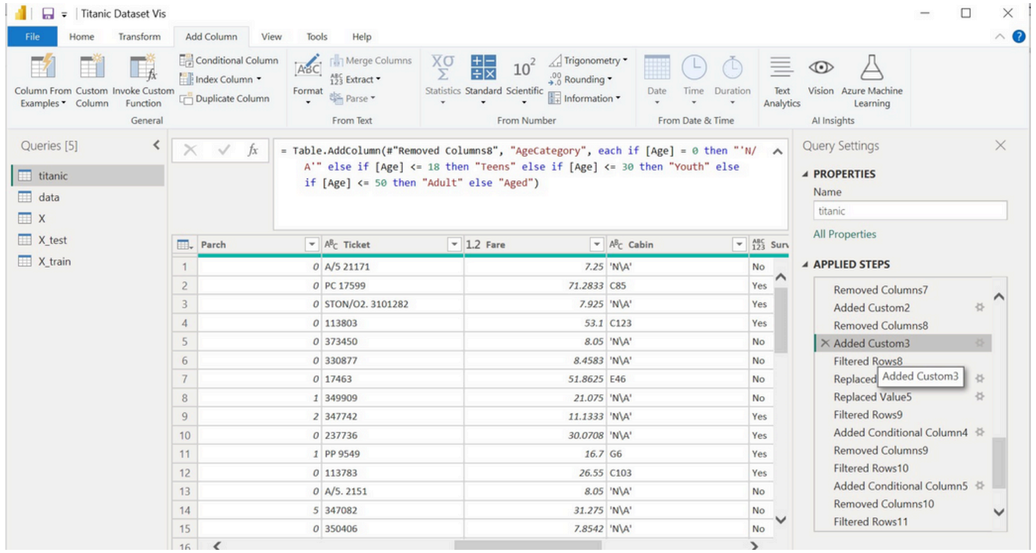
Rearrange, restructure, and pivot your data to meet your analysis needs.

Data Enrichment

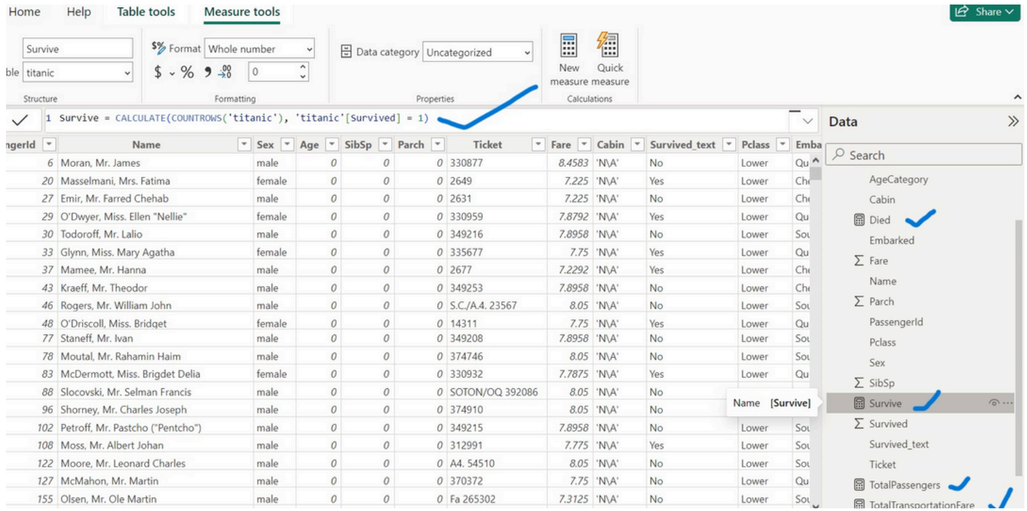
Add calculated columns, merge data sources, and enhance data quality.

Dax (calculated columns and measures)

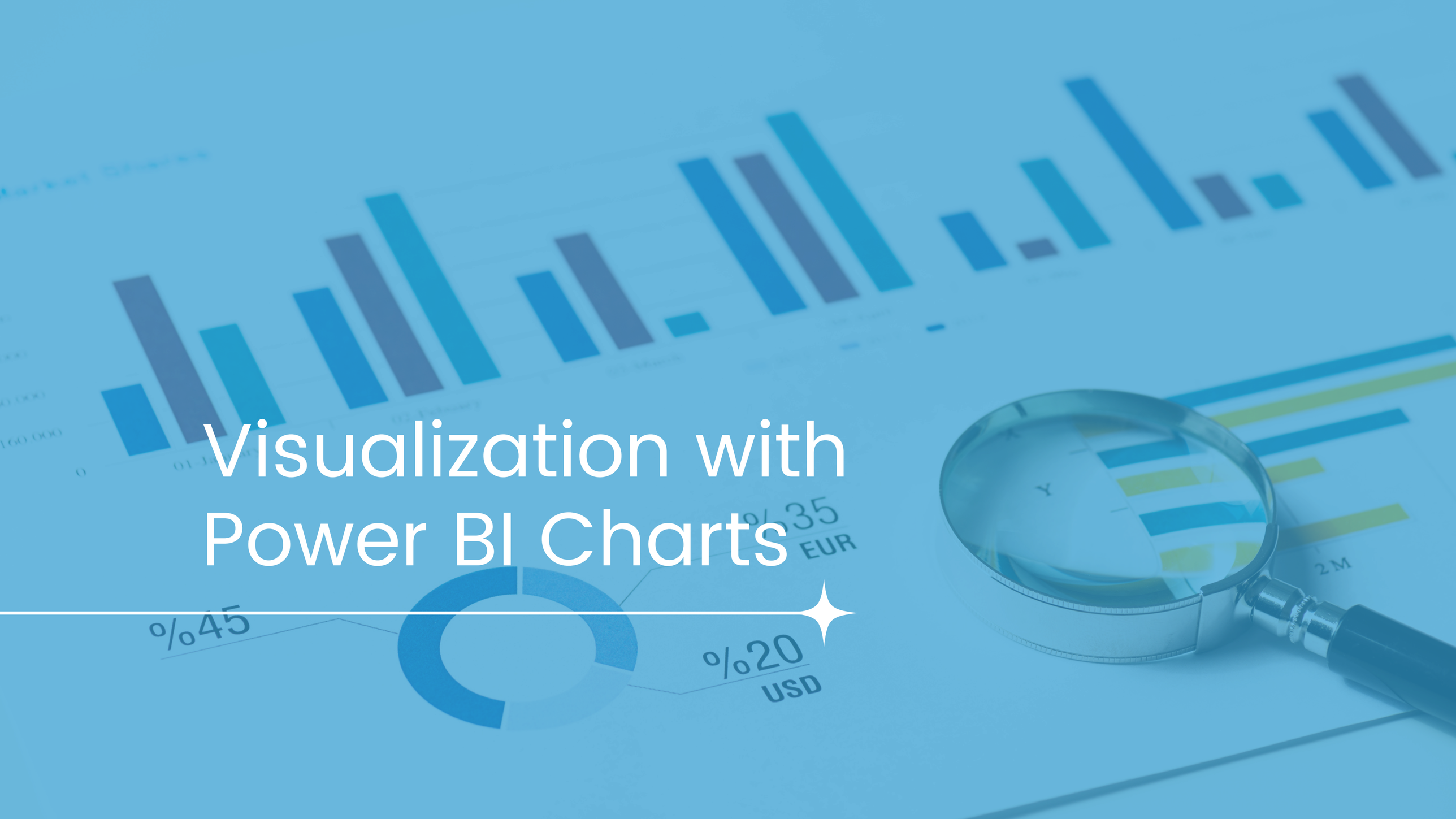
DAX (Data Analysis Expressions) is a formula language used in Power BI to create calculated columns and measures. Calculated columns are new columns derived from existing columns, while measures are aggregations of data across multiple rows.



Here are some examples of DAX expressions for the Titanic dataset:

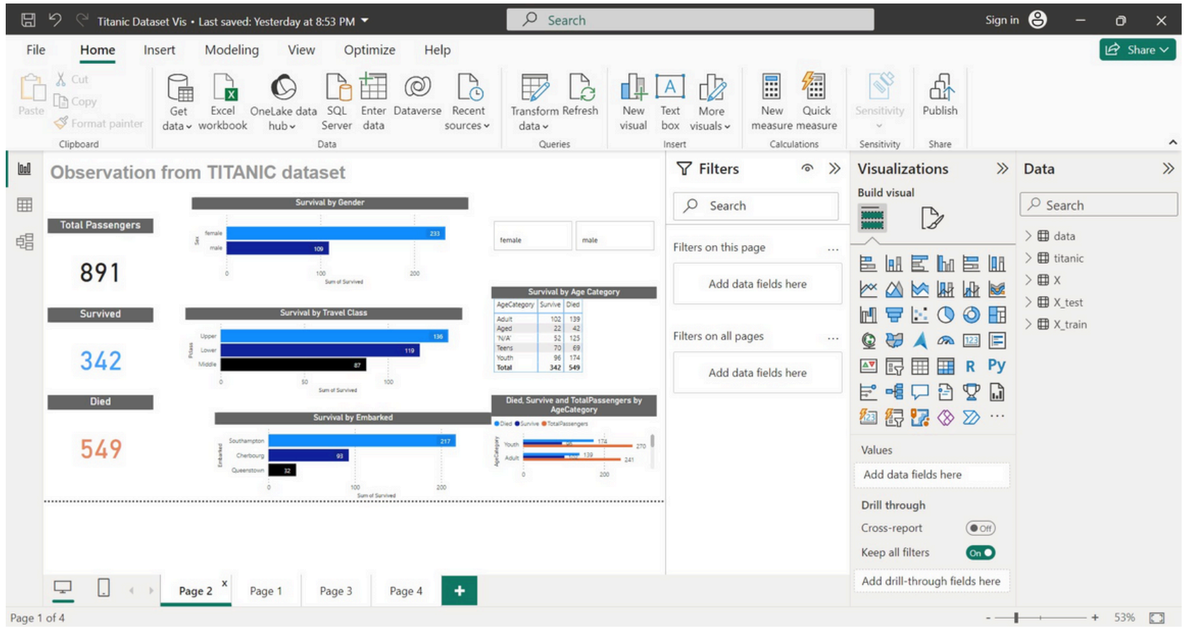


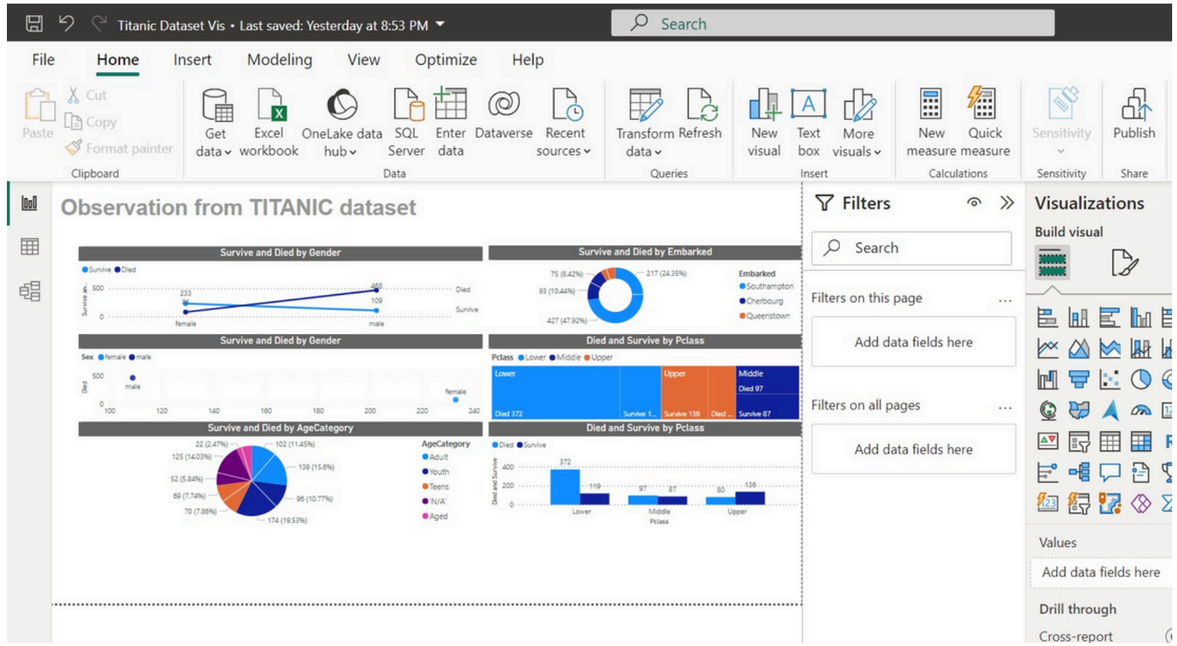
Visualization with Power BI Charts



I didn’t do much, I don’t do much lol so I just;

- Inserted a text box and placed in my title at the top of the page.
- Created 3 different cards to display: a) Total Passengers b) Those who survived c) Those who died.
- Used bar charts to display the number of passengers who survived by a) Gender b) Point of embarkation c) Travel class
- Used a metric/table visual to display the number of passengers who survived by age category.
- Created a slicer which appeared at the top of the page to provide more granular information between Male or Female.





ML INTEGRATION

- Machine learning is a powerful tool that can be used to gain insights from data and make predictions.
- Power BI is a business intelligence tool that can be used to visualize and analyze data.
- By integrating Python into Power BI, you can extend the capabilities of Power BI to include ML.

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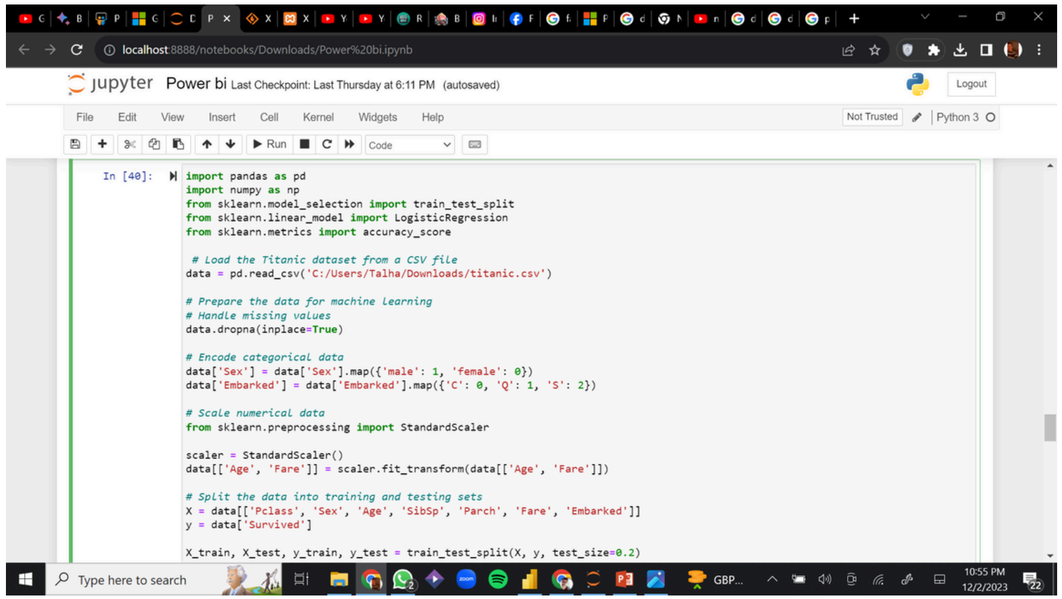

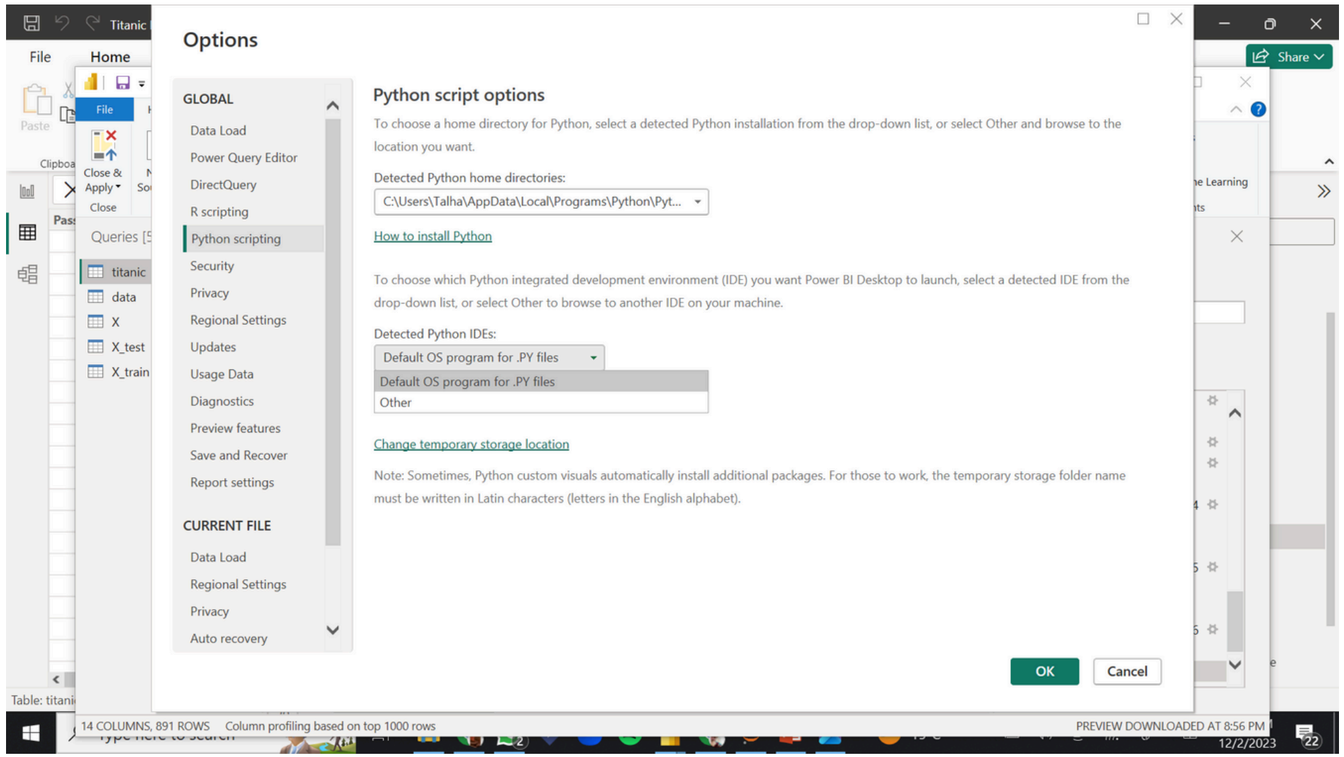

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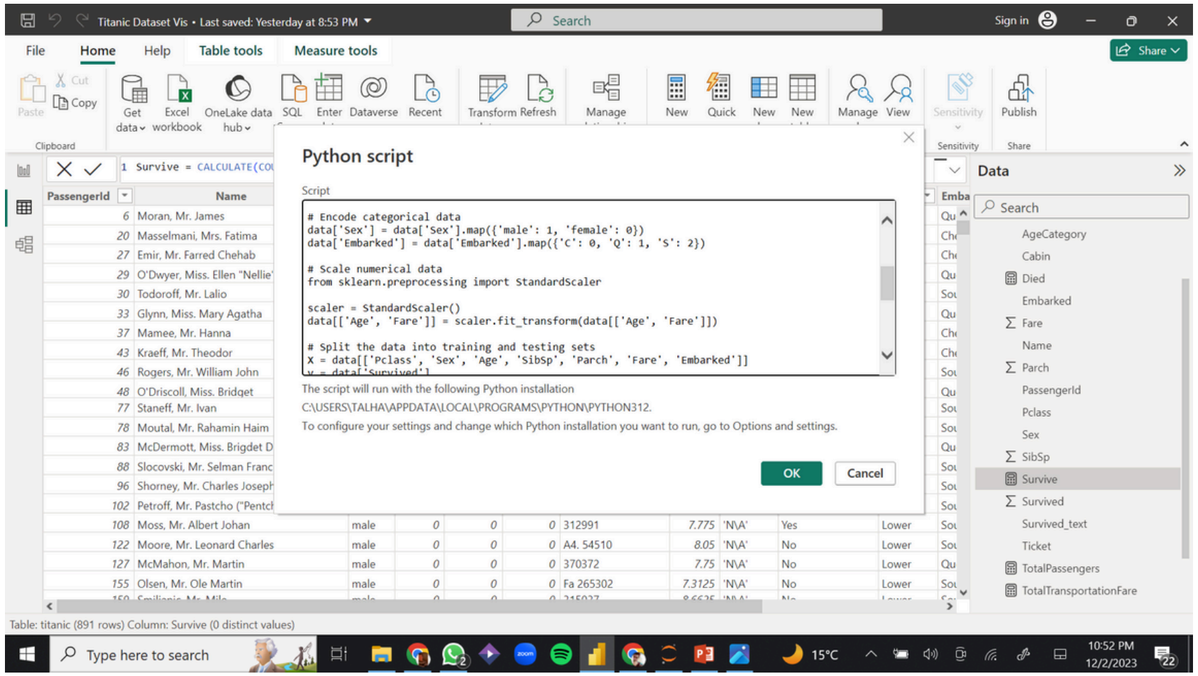

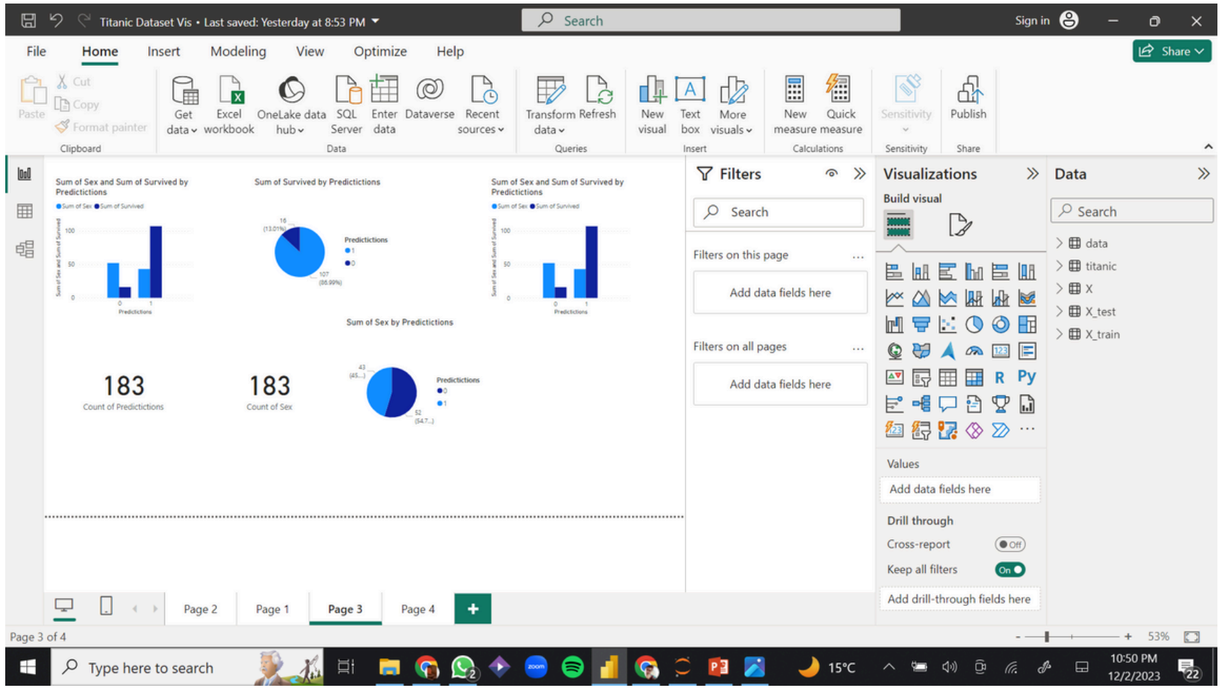

Thank You
For Your Time!