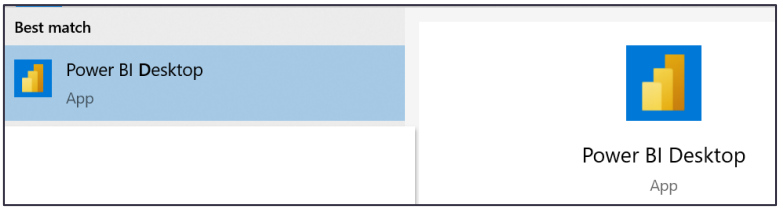
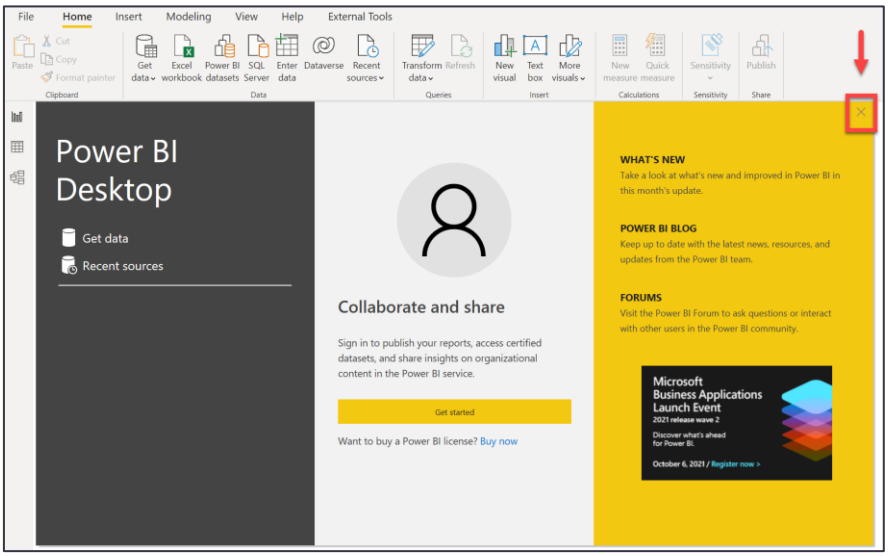
Introduction

In this lab you will learn how to build a report in Power BI from scratch using Power BI Desktop.

How to get Power BI Desktop:

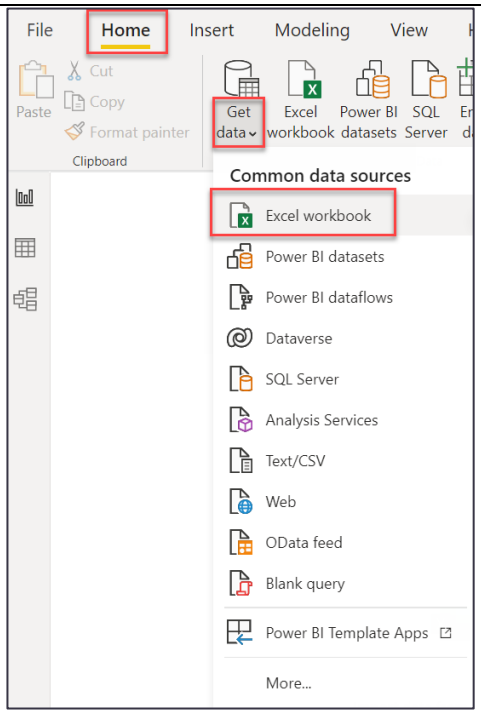
https://learn.microsoft.com/en-us/power-bi/fundamentals/desktop-get-the-desktop

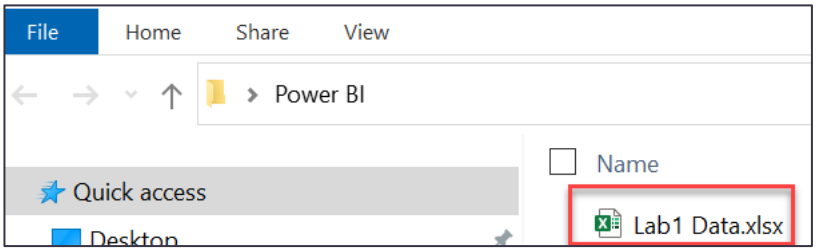
Power BI Desktop – Lab1

1. Click → **Start** and type Power BI Desktop. 2. Click → **Power BI Desktop App**	
3. It will display the screen on the right. For now, close it.	

4. From the ribbon, select **Home** > **Get Data** > **Excel workbook**

5. Select the file “Lab1 Data.xlsx” on the Power BI folder and click **Open**.





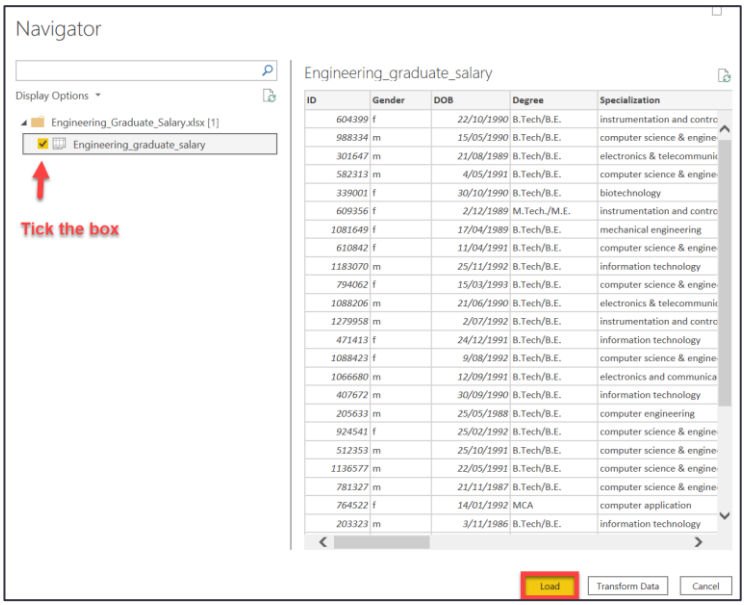
You have three options – Load, Transform Data and Cancel.

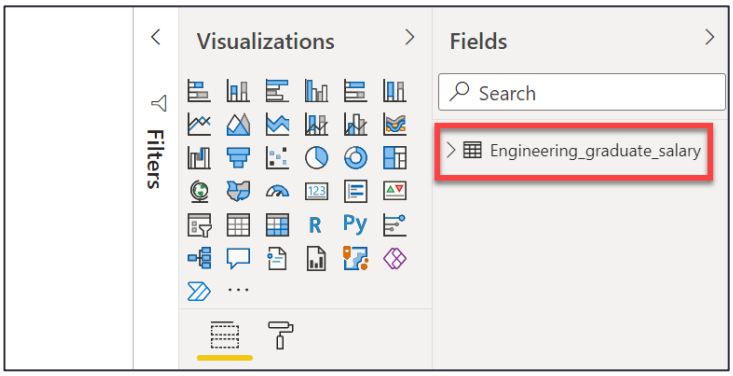
Load: loads the data from the source into Power BI Desktop for you to start creating reports.

Transform Data: allows you to perform data shaping operations such as merging columns, adding additional columns, changing data types of columns.

Cancel: gets you back to the main canvas.

6. Select the box (Engineering_graduate _ salary) and click **Load**.



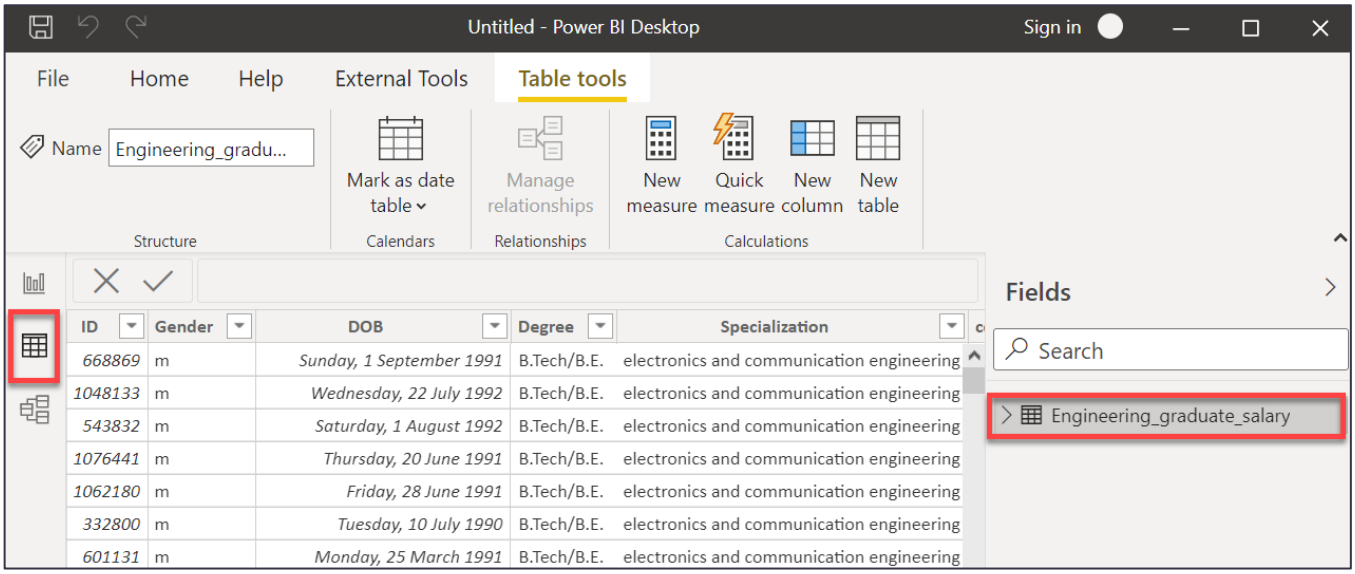
7. Once you click load, the data will display on the right-side Fields	

Let's Save our Power BI file:

Click File > Save as > Desktop > Lab1 → it will save a file extension .pbix

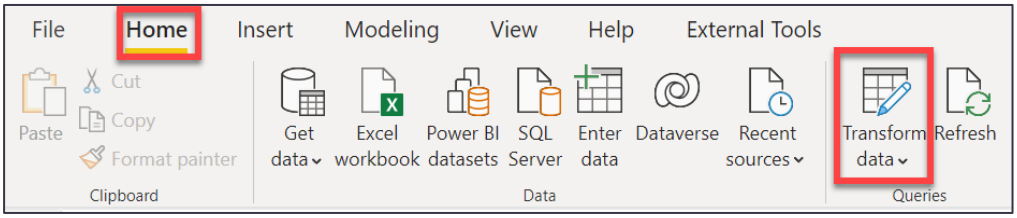
Understanding the Data

On the left-side click on **Data** and you will be able to see which data is available on this table.

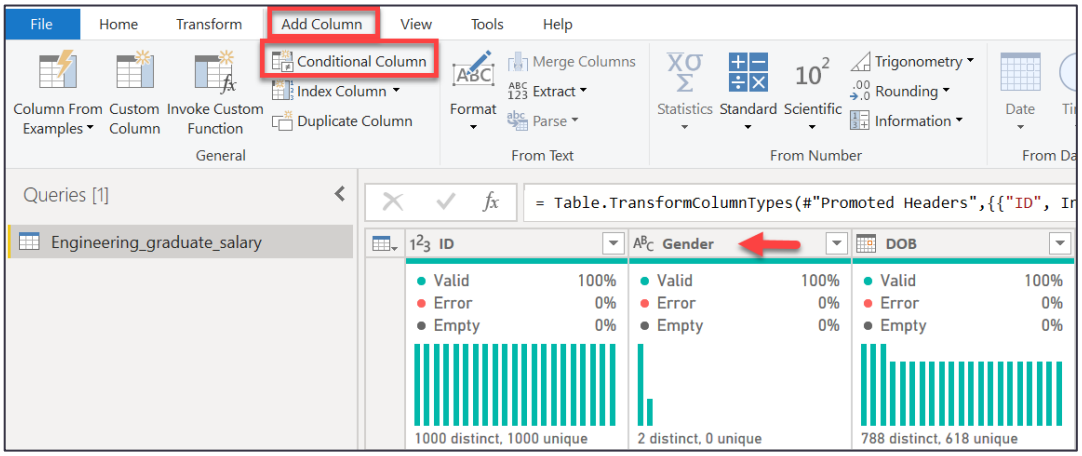


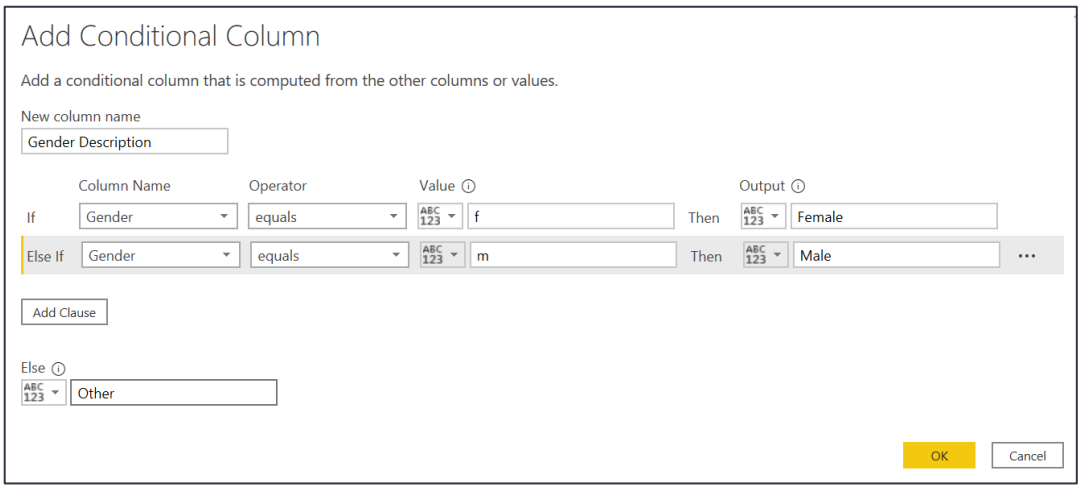
Transforming the Data

To be able to transform and prepare your data, you need to go to Home > Transform Data.

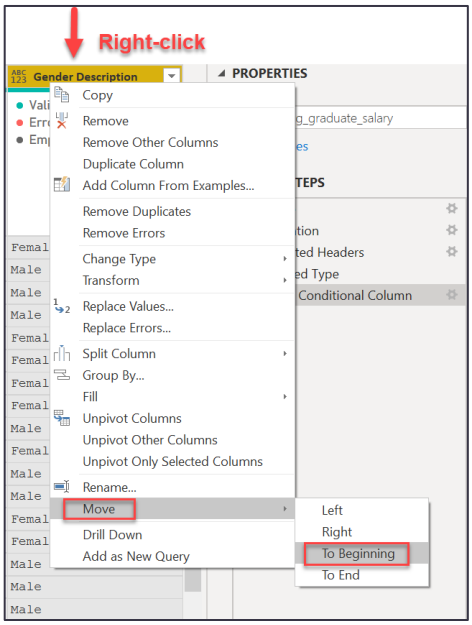


1. Column “Gender”: replace “f” by Female and “m” by Male, creating a Conditional Column.

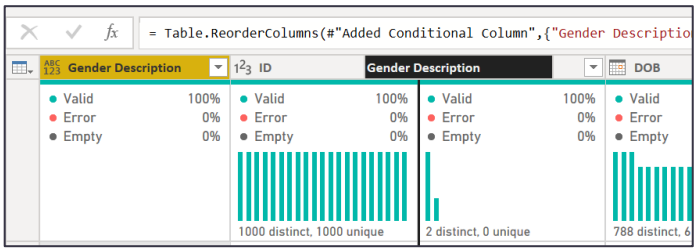




- Move the new column “Gender Description” to the Beginning.

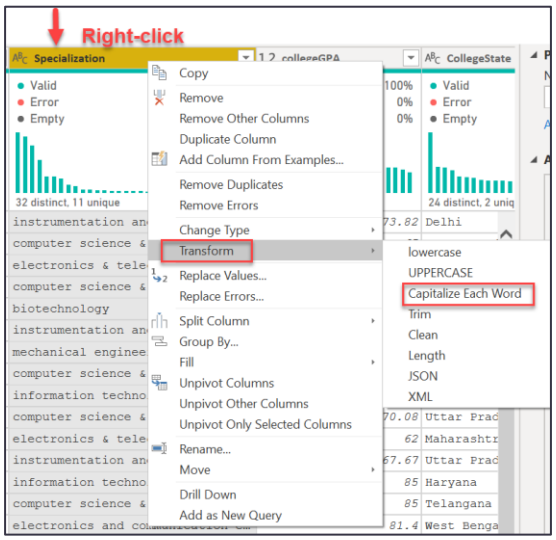


Then Drag to the right, after the column ID.



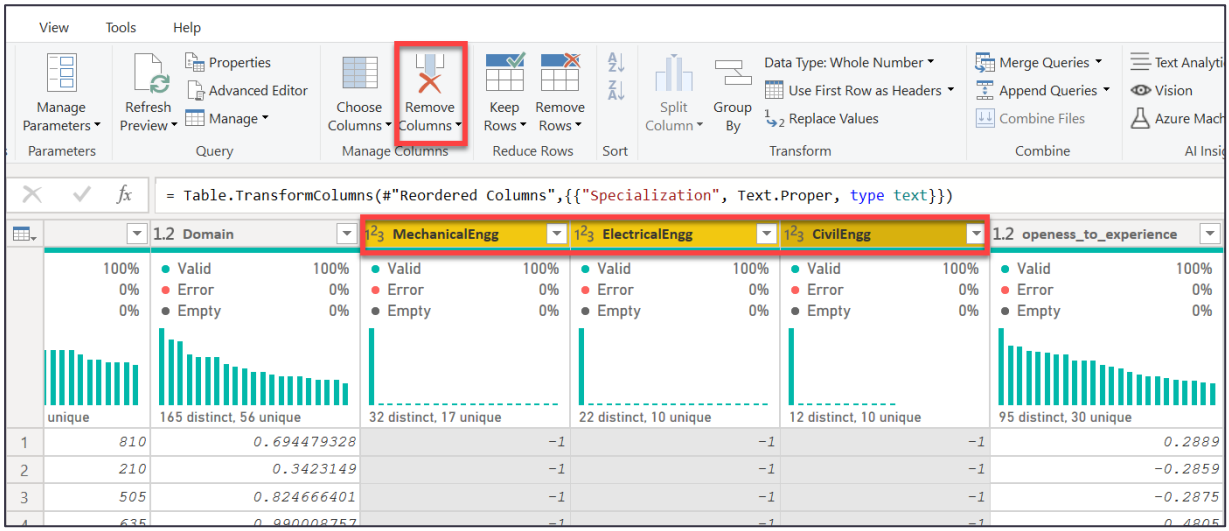
2. <u>Column “Specialization”</u>: the words are not capitalised. Capitalise each word on this column.

   - Right-click on the column “Specialization” → Transform → Capitalize Each Word.



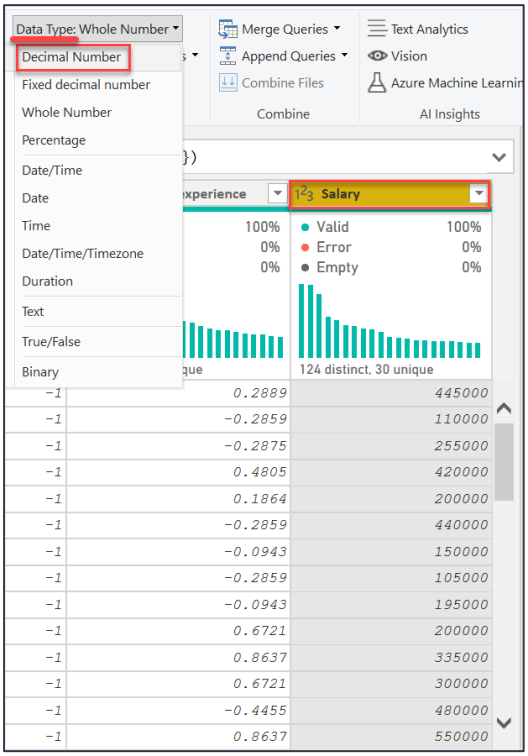
3. <u>Delete Columns</u>: delete the columns “MechanicalEngg”, “ElectricalEngg” and “CivilEngg”.

   - Select the columns → Remove Columns.



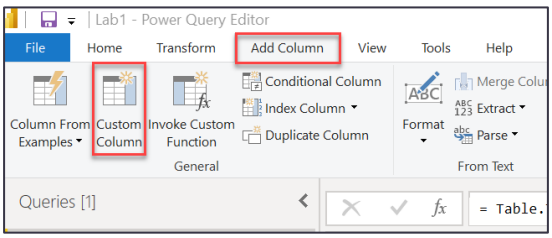
4. Column “Salary”: Change Data Type from ‘Whole Number’ to ‘Decimal Number’.

   - Select the column “Salary” → from the ribbon, select **Home** > **Data Type**

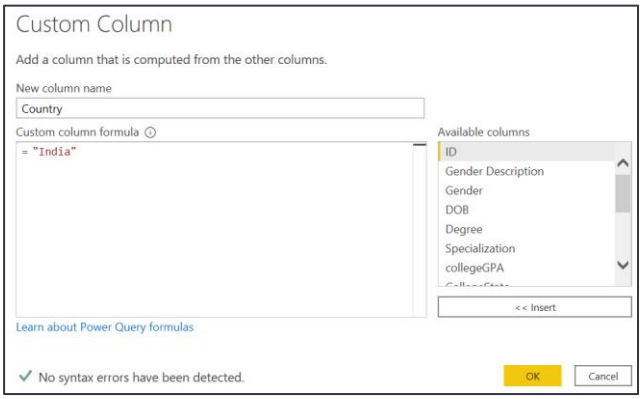


5. Create Column “**Country**”: India

   - From the ribbon, select **Add Column** > **Custom Column**



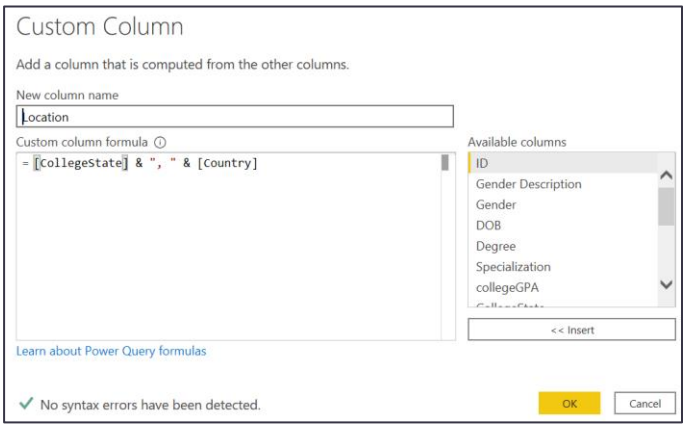
   - New column name = Country and Custom column formula = “India”



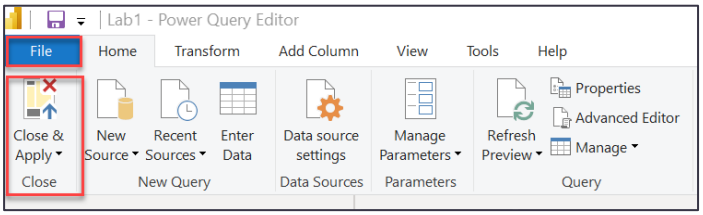
6. Create Column “**Location**”: concatenate fields Country + CollegeState

   - From the ribbon, select **Add Column** > **Custom Column**

   - On the right-side “Available columns” → find the field “CollegeState” and double click on the field, so it will be added to the Custom column formula.



From the ribbon, go to File → Close & Apply.

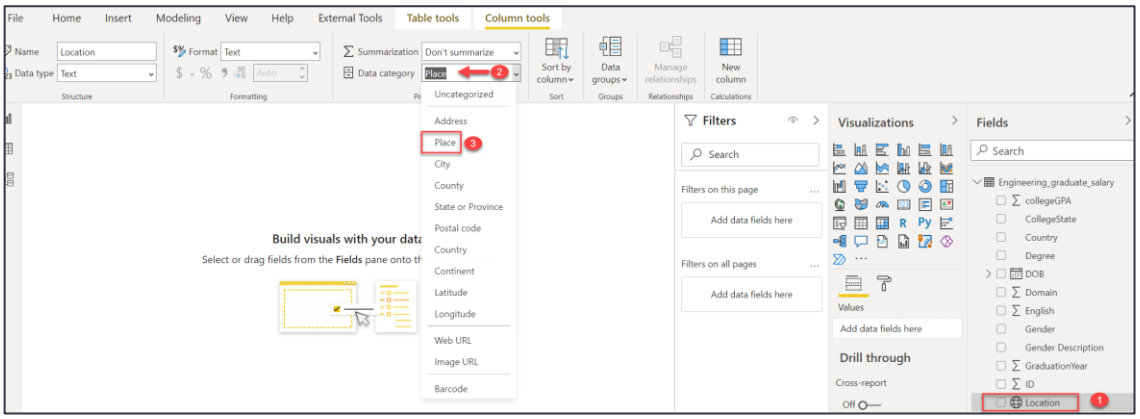


Building the Report

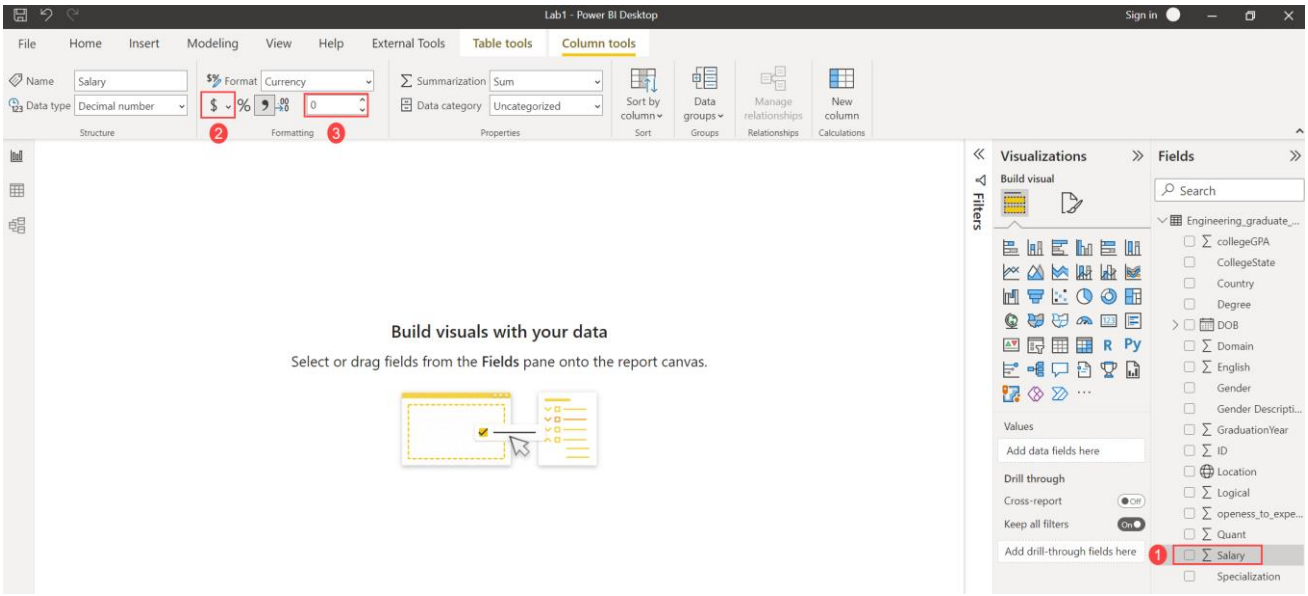
1st Visual - Map.

Question 1: Average Salary by Location (Map)

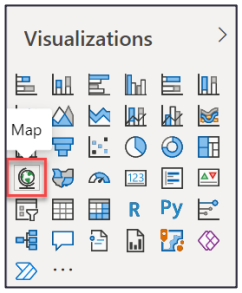
Go to Fields (on the right-side) → select the field **Location** → Go to **Data Category = Place**



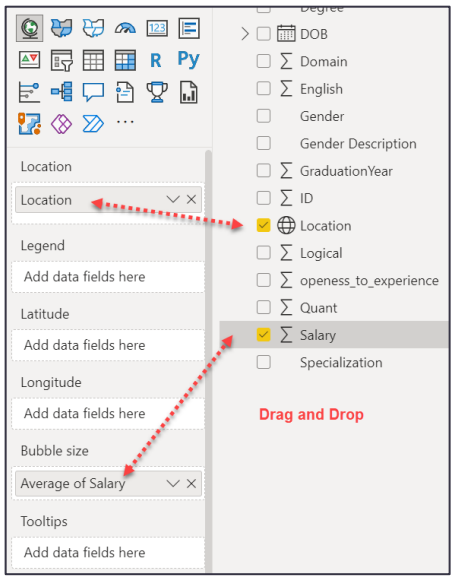
Go to Fields (on the right-side) → select the field **Salary** → Go to **$** and change the format to display the values in this column as currency. Change the number of decimal places shown for this value to **0**.



Click on the visual called **Map** and add it to the Canvas.

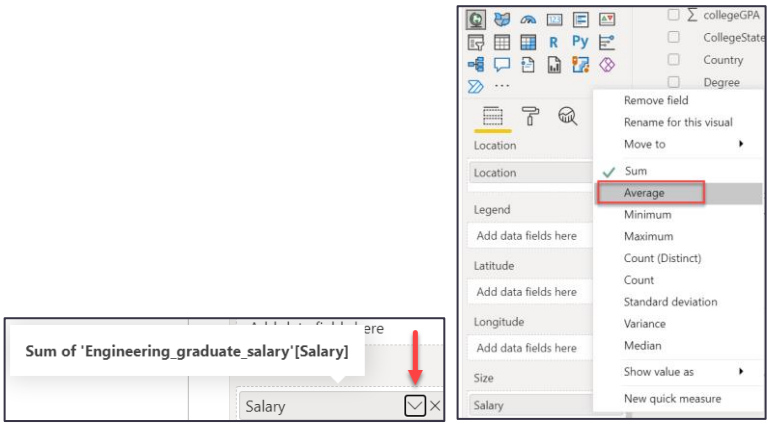


Drag and drop the fields Location and Salary.

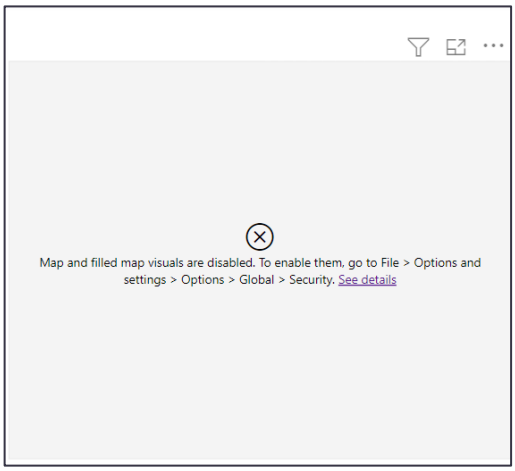


We added the field Salary on 'Size' and it is a Sum of the Salary, but on this visual, we need to display **Average.**

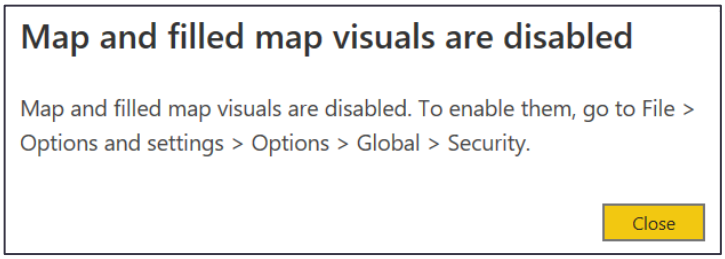
From the arrow down menu → select Average.



Note: you may get the error message below.



To fix this issue, apply the following steps:

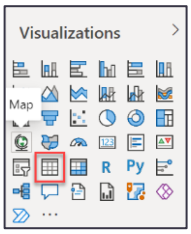


2nd Visual – Table and Conditional formatting

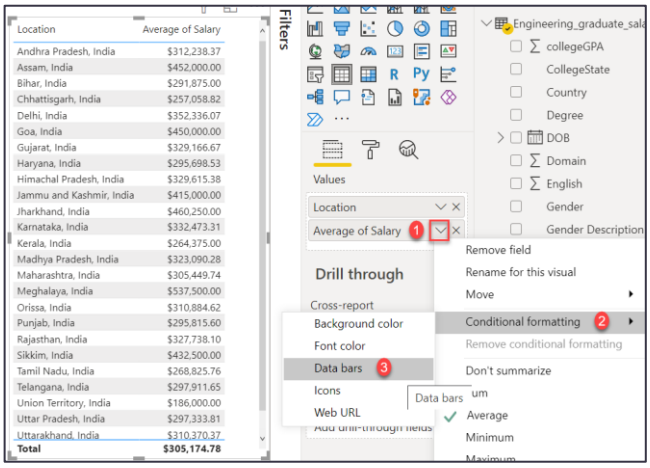
Question 2: Average Salary by Location (Table).

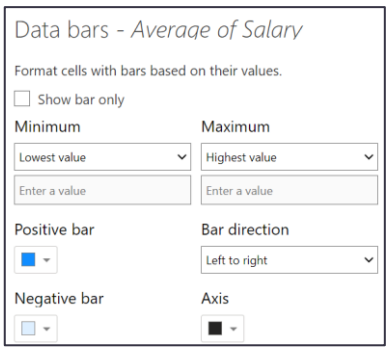
Click on the Map, copy (Ctrl-C) and paste (Ctrl-V) on the Canvas.

Go to Visualizations → select **Table** visual → Drag and Drop the visual to a blank space on the Canvas (resize the visual as needed)



From the drop-down menu on the ‘Average of Salary’ field → Conditional Formatting → Data bars





3rd Visual - Card.

Question 3: Display Average Salary.

4th Visual – Bar chart.

Question 4: Average Salary by Gender.

5th Visual – Donut chart.

Question 5: Number of Students by Gender.

Reference:

The full Dataset is available at: https://www.kaggle.com/manishkc06/engineering-graduate-salary-prediction

PowerBI Visuals Reference: https://www.sqlbi.com/ref/power-bi-visuals-reference/