Create Categorical Columns from One-Hot Encoded Flags

Original columns:

- job_blue-collar, job_entrepreneur, job_housemaid, ..., job_unemployed

```
Job =
SWITCH(TRUE(),
    'bank_data'[job_blue-collar] = 1, "Blue-Collar",
    'bank_data'[job_entrepreneur] = 1, "Entrepreneur",
    'bank_data'[job_housemaid] = 1, "Housemaid",
    'bank_data'[job_management] = 1, "Management",
    'bank_data'[job_retired] = 1, "Retired",
    'bank_data'[job_self-employed] = 1, "Self-Employed",
    'bank_data'[job_services] = 1, "Services",
    'bank_data'[job_student] = 1, "Student",
    'bank_data'[job_technician] = 1, "Technician",
    'bank_data'[job_unemployed] = 1, "Unemployed",
    "Unknown"
)
```

2. Marital Status Column

Original columns:

- marital_married, marital_single
  (Presumed default is divorced if both are 0)

```
Marital_Status =
SWITCH(TRUE(),
    'bank_data'[marital_married] = 1, "Married",
    'bank_data'[marital_single] = 1, "Single",
    "Divorced"
)
```

3. Education Level Column

Original columns:

- education_basic.6y, education_basic.9y, education_high.school, etc.

```
Education_Level =
SWITCH(TRUE(),
    bank_predictions[education_basic.6y] = TRUE(), "Basic (6y)",
    bank_predictions[education_basic.9y] = TRUE(), "Basic (9y)",
    bank_predictions[education_high.school] = TRUE(), "High School",
    bank_predictions[education_illiterate] = TRUE(), "Illiterate",
    bank_predictions[education_professional.course] = TRUE(), "Professional Course"
    bank_predictions[education_university.degree] = TRUE(), "University Degree",
    "Unknown"
)
```

4. Create Contact_Month Column

```
Contact_Month =
SWITCH(TRUE(),
    bank_predictions[month_aug] = TRUE(), "August",
    bank_predictions[month_dec] = TRUE(), "December",
    bank_predictions[month_jul] = TRUE(), "July",
    bank_predictions[month_jun] = TRUE(), "June",
    bank_predictions[month_mar] = TRUE(), "March",
    bank_predictions[month_may] = TRUE(), "May",
    bank_predictions[month_nov] = TRUE(), "November",
    bank_predictions[month_oct] = TRUE(), "October",
    bank_predictions[month_sep] = TRUE(), "September",
    "Unknown"
)
```

5. Create a Score Bin for Filtering

```
Score_Bin =
SWITCH(TRUE(),
    bank_predictions[subscription_probability] >= 0.9, "90–100%",
    bank_predictions[subscription_probability] >= 0.8, "80–89%",
    bank_predictions[subscription_probability] >= 0.7, "70–79%",
    bank_predictions[subscription_probability] >= 0.6, "60–69%",
    bank_predictions[subscription_probability] >= 0.5, "50–59%",
    "Below 50%"
)
```

POWER BI DASHBOARD COMPONENTS

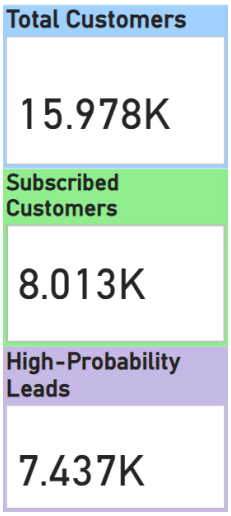
1. **Creation of KPI Cards (Top Metrics)**

What is a Card?

A card shows **one big number** like "Total Customers".

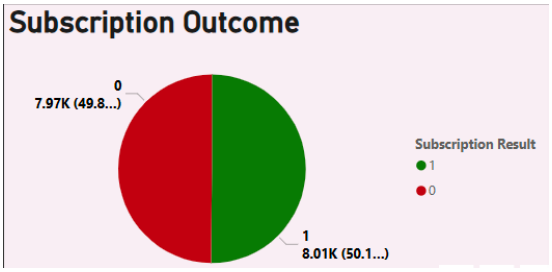
Create These 3 Cards:

KPI Name	How to Make It
Total Customers	Count of age
Subscribed Customers	Count of actual, then filter to actual = 1
High-Score Leads	Count where subscription_probability > 0.7 (use a filter)

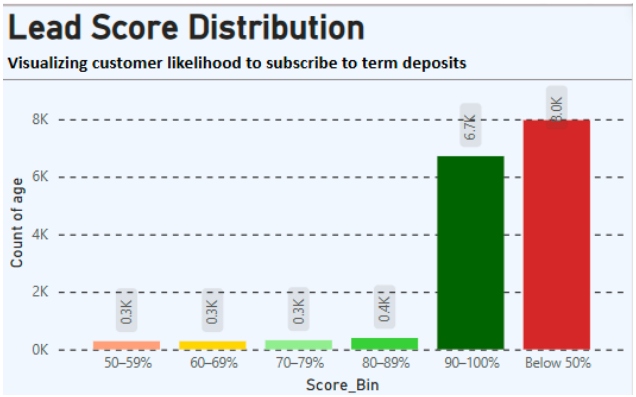


2. **Pie Chart – Subscription Distribution**

1. Click on the **Pie Chart** icon (looks like a pie) in the Visualizations panel.
2. It will show how many customers said **Yes (1)** or **No (0)** to term deposits.



3. **Create a Histogram – Score Distribution**



This chart will show how many customers have high vs low prediction scores.

DAX:

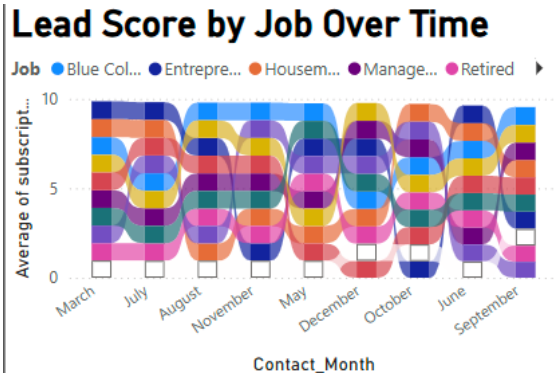
```
Score_Bin =

SWITCH(TRUE(),

   bank_predictions[subscription_probability] >= 0.9, "90–100%",

   bank_predictions[subscription_probability] >= 0.8, "80–89%",

   bank_predictions[subscription_probability] >= 0.7, "70–79%",

   bank_predictions[subscription_probability] >= 0.6, "60–69%",

   bank_predictions[subscription_probability] >= 0.5, "50–59%",

   "Below 50%")
```

4. **A Ribbon Chart**

- The ribbon part will highlight ranking over time, and it shows volume of customers per month.
- In Filters on this visual, drag in subscription_probability in which the value is greater than or equal to 0.7

What This Tells the Business:

"Retired customers had the highest predicted scores in March & May"



5. **Scatter Chart Visual**

Section	Field	Meaning
X-axis	duration	How long the last call lasted
Y-axis	subscription_probability	Model-predicted lead score
Details	age or Job	To make each point unique
Tooltips	Education_Level, actual, Job	Show on hover

- Each dot = a customer, If the dots go up as duration increases, then longer calls may lead to better scores.
- If dots are all over the place, the relationship may be weak

Business Insight:

"**Most customers with high predicted scores (≥0.7) had calls longer than 150 seconds. Agents should aim to engage customers longer to increase conversions.**"