**💼 Billionaire Data Analysis (Excel Project)**

**🧹 Step 1: Data Cleaning**

To start, I cleaned up the dataset to make it ready for analysis:

* Removed duplicate entries.
* Cleaned up the **Gender** column by replacing "M" and "F" with full labels — "Male" and "Female".
* Combined the birthYear, birthMonth, and birthDay columns into one proper Birthdate column.
* Added a Current Date column just before Birthdate, so I could calculate the **real age** of each person using the =YEARFRAC() formula.
* Checked the gdp\_country column for invalid characters by testing simple formulas (like =Q2+R2) — errors pointed to non-numeric values.
* Fixed those entries by using **Find and Replace**, then formatted the column to **Number** with 0 decimal places for consistency.

**📊 Step 2: Data Analysis**

Once the data was clean, I dove into the analysis:

**🧠 Descriptive Stats**

I started with basic **descriptive statistics** using the **Data Analysis Toolpak**:

* Selected my data range and ran the summary tool.
* This gave me useful info like the **average age**, **minimum and maximum net worth**, and **total count** of people.

**🏆 Top 10 Richest Billionaires**

Next, I used a **Pivot Table** to find out who the **Top 10 richest people** were:

* Set personName as the row label, and finalWorth as the value.
* Used filters to only show the top 10, and sorted them from highest to lowest.

**📈 Billionaires by Age**

I was curious if age had any pattern — like, are older people more likely to be billionaires?

* I copied the first Pivot Table and cleared it out.
* Then used Age as both the row and value field, but changed the value to show a **Count**.
* To make it easier to read, I grouped the ages into **10-year ranges** (30–40, 40–50, etc.).
* The result? Most billionaires fall within the **50–70 age range** — interesting insight!

**📊 Step 3: Data Visualization**

To make everything easier to explore:

* I added **Slicers** for Industry, Self-Made, and Gender, so you can interact with the data.
* Made sure both Pivot Tables were connected to the slicers using **Report Connections**, so filtering updates both charts.
* Created a **bar chart** for the **Top 10 billionaires**, and another one for the **age distribution**.