All about data Cleaning what is done in the excel file .

**Step 1: Clean the Exchange Rates**

For each country, perform the following to fill missing values:

1. Highlight all missing values (Use conditional formatting).
2. Apply linear interpolation (To understand Interpolation, check out the [**link here**](https://docs.google.com/document/d/e/2PACX-1vS56kUDQNo8vPu3dxjMHxBFbybPFrcM_aX8Rwi_FYjpwgj3gDe7LLLtiJyNHE7OiSdlZjtBypANx2b_/pub).) for missing exchange rates between two known values

* Use the interpolation formula given below to find the value at a cell where the values before and after are known. For example to find B1 if A1 and D1 are known

=$A1+(($D1-$A1)/(COLUMN($D1) - COLUMN($A1))) \* (COLUMN(B1) - COLUMN($A1))

* The above is just an example. For each of the missing exchange rates between two known values, you will have to manually modify the above interpolation formula. Once the value is found, drag the formula across the cells where the values are empty.

1. For missing values at the beginning (earliest years) or end (latest years) where interpolation is not possible, we will use forward filling (propagate the last known value forward) and backward filling (propagate the first known value backward)
2. For rows having no data for interpolation or forward and backward filling, fill all the values with 0.
3. Ensure the decimal values are rounded off to 2 decimal places.

**Step 2: Fill the solution sheet**

Head over to the Solution sheet and answer the questions. Use Excel functions to calculate and fill the Answer column, do not copy and paste.

🚨 **Prevent Accidental Changes!**

Before cleaning the data:

* **Create a backup copy** of the Exchange Rates sheet to preserve original values.
* This will help you compare the original dataset with the modified one in case of errors.
* If changes seem incorrect, you can restore values from the backup instead of redownloading the data.
* 👉 If forward or backward filling is applied incorrectly, existing values may get unintentionally altered. Be sure to verify changes before proceeding.

This is a crucial step to **maintain data integrity** and avoid unnecessary rework.