User:

tutorial for 6

ChatGPT:

Great choice! Topic 6: Conditional Counting with COUNTIF / COUNTIFS

This is one of the most useful skills in Excel for analyzing data.



Tutorial: Conditional Counting (COUNTIF & COUNTIFS)

Objective

Learn how to count cells that meet specific conditions using COUNTIF (one condition) and COUNTIFS (multiple conditions).

Why it matters

- · Quickly answer questions like:
 - · How many students scored above 50?
 - How many orders came from Singapore AND are over \$100?
- · Saves time compared to counting manually.

A Steps

1. COUNTIF syntax

=COUNTIF(range, criteria)

- range = where to look (e.g., B2:B20)
- criteria = what condition must be true (e.g., ">50")

2. COUNTIFS syntax

=COUNTIFS(range1, criteria1, range2, criteria2, ...)

- · Can test multiple conditions.
- Example: =COUNTIFS(A2:A20, "Singapore", B2:B20, ">100")

Worked Example

Imagine this table of sales:

Name Country Sales

Alex Singapore 120

Ben Malaysia 80

Clara Singapore 60

Devi Singapore 200

Ethan Malaysia 150

Example 1: Count how many sales are greater than 100

=COUNTIF(C2:C6,">100")

Answer → 3

Example 2: Count how many sales came from Singapore

php

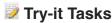
=COUNTIF(B2:B6, "Singapore")

Answer → 3

Example 3: Count how many Singapore sales are greater than 100

```
php
=COUNTIFS(B2:B6,"Singapore",C2:C6,">100")
```

Answer → 2



Starter

1. Count how many sales are less than 100.

Core

2. Count how many Malaysia sales are greater than 100.

Stretch

3. Count how many Singapore sales are between 50 and 150. (Hint: Use two criteria in COUNTIFS with ">=50" and "<=150")

Common Mistakes

- Forgetting quotes around text or operators: "Singapore", ">100"
- Mixing up COUNTIF with SUMIF (COUNTIF counts, SUMIF adds values)
- · Not matching range sizes in COUNTIFS (all ranges must be same length)

Quick Recap

- COUNTIF → 1 condition.
- COUNTIFS → multiple conditions.
- · Always put criteria inside quotes if using text or operators.

Would you like me to now generate your starter workbook (Python script) for this topic, with sample data, tasks, hints, and answers?

User:

generate workbook

ChatGPT:

Awesome — here's a ready-to-run Python script that builds your COUNTIF/COUNTIFS starter workbook.

How to run (Windows/Mac)

- 1. Ensure Python 3.9+ is installed.
- 2. Install dependency:

```
nginx
pip install openpyxl
```

- 3. Save the script below as build_countifs_workbook.py.
- 4. Run it:

```
nginx
python build_countifs_workbook.py
```

5. It creates NLevel_COUNTIFS_Practice.xlsx in the same folder.

What you'll get