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User:

tutorial for 6

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ChatGPT:

Great choice! 🎯 Topic 6: **Conditional Counting with COUNTIF / COUNTIFS**  
This is one of the most useful skills in Excel for analyzing data.

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## Tutorial: Conditional Counting (COUNTIF & COUNTIFS)

### Objective

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

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### 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.
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### Steps

#### 1. COUNTIF syntax

```
go
=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")
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### 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

```
php
=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

**Try-it Tasks****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?

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User:

generate workbook

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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**