What to Cover Practically in: Python Syntax & Indentation (PEP 8)

☑ 1. Basic Syntax Structure

basic Python script:

```
# Correct syntax
print("Hello")
x = 10
y = 20
print(x + y)
```

- No semicolons ;

- No need to declare variable types

- Simple and readable syntax

☑ 2. Importance of Indentation

Now this:

```
# Correct indentation
if x > 5:
    print("x is greater than 5")
    print("Still inside if block")
print("Outside the if block")
```

🎯 Explain:

- Python uses **indentation instead of braces { } like C/Java**

- Default indentation is **4 spaces (not tab)** as per **PEP 8**

✖ 3. What Happens If Indentation Is Wrong

example with an error:

```
# Incorrect indentation
if x > 5:
print("x is greater than 5")
```

▶ Run it and the error:

```
IndentationError: expected an indented block
```

📢 Explain that **Python is strict** about indentation. Even 1 space mistake can break the code.

☑ 4. Nested Indentation

how indentation works with nested blocks:

```
x = 10
if x > 5:
    print("x > 5")
    if x > 8:
        print("x > 8")
print("Done")
```

Explain how each block is **indented deeper**, and how that represents **scope** in Python.

🎨 5. PEP 8 Style Guide (Quick Highlights)

You don't have to go deep — just mention:

- Use **4 spaces** for indentation (not tabs)

- Leave **2 lines between functions**, 1 between logic blocks

- Use **snake_case** for variables and functions

✨ Bonus Tips

- Use **split screen**: Code on left, output/error on right

- Keep a **"Wrong vs Correct"** side-by-side comparison

- Highlight key points with overlays like "❌ Wrong Indent" and "✅ Good Practice"

About the Author

Gowtham SB is a **Data Engineering expert, educator, and content creator** with a passion for **big data technologies, as well as cloud and Gen AI** . With years of experience in the field, he has worked extensively with **cloud platforms, distributed systems, and data pipelines**, helping professionals and aspiring engineers master the art of data engineering.

Beyond his technical expertise, Gowtham is a **renowned mentor and speaker**, sharing his insights through engaging content on **YouTube and LinkedIn**. He has built one of the **largest Tamil Data Engineering communities**, guiding thousands of learners to excel in their careers.

Through his deep industry knowledge and hands-on approach, Gowtham continues to **bridge the gap between learning and real-world implementation**, empowering individuals to build **scalable, high-performance data solutions**.

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