We **cannot completely replace Matplotlib with ggplot**. Let’s see why:

**What ggplot is**

* ggplot (from **plotnine** in Python) is inspired by R’s ggplot2.
* It follows the **“Grammar of Graphics”**, meaning you build plots by combining layers: data → aesthetic → geometry → labels → themes.
* Example:

from plotnine import ggplot, aes, geom\_line, labs

plot = (

ggplot(df, aes(x="Hours Worked", y="Money Earned"))

+ geom\_line()

+ labs(title="Hours Worked vs Money Earned")

)

* Very **declarative**, easier for creating **statistical plots** or **layered visualizations**.

**What Matplotlib is**

* Matplotlib is a **low-level plotting library**.
* Very **flexible**, lets you control every detail: figure size, axes, tick marks, fonts, annotations, etc.
* Supports **all kinds of plots**, not just statistical.
* Many libraries like **Seaborn**, **pandas plotting**, and **Plotly** use Matplotlib under the hood.

**When ggplot might replace Matplotlib**

* If your goal is **quick, clean, statistical visualizations**.
* When you like the **layered grammar style**.

**When do you still need Matplotlib**

* Complex custom plots (annotations, subplots, 3D plots, polar plots, etc.).
* Fine control over **every aspect** of the figure.
* Integration with **other Python libraries** that expect Matplotlib objects.

**Summary:**

* **ggplot simplifies certain plots**, especially statistical ones.
* **Matplotlib is still essential** for full control, customization, and complex visualizations.