**Model.py**

✅ This model.py now:

* Supports **dynamic acquisition functions** (ucb, ei, pi)
* Allows easy switching between **Matern 5/2 kernel** and **RBF kernel**
* Handles **cold start** (no training points yet)
* Includes **robust fallback if optimizer fails**

**Utils.py**

✅ Now:

* **When plotting**, you will **automatically get a comment**: good fit or poor fit.
* **After every new point**, your system will **log**:
  + Acquisition strategy
  + Kernel used
  + Best value observed
  + Iteration number

✅ Helps in tracking and reporting!

**Main.py**

✅ main.py now:

* Loops through all 8 functions automatically
* Decides acquisition + kernel smartly based on number of observations
* Suggests next input
* Plots GP prediction and checks model fit quality
* Logs iteration details into a CSV file for each function

**Plot\_convergence.py**

✅ **What This Does:**

* Reads the logs/ folder
* For each function:
  + Plots **iteration number** (week) vs **best output value so far**
  + Saves the plot to plots/convergence\_func\_{func\_id}.png
* Helps you **visualize your model’s learning progress over time** 📈

✅ You can run this **any time** after a few weeks to track improvement!