Python Screening Task 3: Evaluating Open Source Models for Student Competence Analysis

This task is designed to assess your ability to research, evaluate, and propose the use of open source AI models for a specific educational problem: prompting high-level student competence analysis.

Task Objective:

Your goal is to explore existing open source AI models (e.g., LLMs, NLP tools, educational analytics frameworks) and determine whether any of them can be adapted to generate meaningful prompts or insights that assess a student's depth of understanding or competence.

To make this more concrete, use **Python learning** as your test case. Specifically, consider how a model might:

- Analyze student-written Python code
- Generate prompts that assess conceptual understanding
- Identify gaps in reasoning or misconceptions
- Encourage deeper learning without giving away solutions

You must evaluate at least one freely available model and discuss its potential fit for this use case.

You will submit a short research plan outlining:

- How you would approach this evaluation
- What criteria you had used to assess model suitability
- Any initial thoughts on promising models or limitations

What You Need to Submit:

- A 2-paragraph research plan (in Markdown or plain text) that includes:
- Your approach to identifying and evaluating relevant models
- How you would test or validate their applicability to the problem
- A brief explanation of your reasoning and decision-making process

Reasoning (Required)

In your submission, answer:

- What makes a model suitable for high-level competence analysis?
- How would you test whether a model generates meaningful prompts?
- What trade-offs might exist between accuracy, interpretability, and cost?
- Why did you choose the model you evaluated, and what are its strengths or limitations?

How to Submit:

- Push your work to a public GitHub repository or drive
- Include setup instructions and reasoning in your README or any other file
- Share the repo or drive link with us via email [pythonsupport@fossee.in]

Submission Checklist:

[ ] Research plan is clear, focused, and well-structured
[ ] Reasoning is thoughtful and original
[ ] Includes reasoning answers
[ ] Any references or links to models/tools are properly cited

Good luck!