L2 Assignment: Research Tool Implementation

Context

We are building an internal **research portal** where AI is used as **specific research tools**, not as an open-ended chatbot.

Each tool is designed to produce **structured, analyst-usable outputs** for common research tasks.

Your Task

Implement a **minimal research portal slice** with the following flow:

1. A researcher uploads **one or more documents**

2. The system ingests these documents

3. Based on the uploaded documents, implement **at least one** of the following research tools:

Option A: Financial Statement Extraction to Excel

- Input: Annual report / financial statement
    Input Document Example

- Output:
    - Excel file (or CSV) with income statement line items extracted and ready for analysis and calculations.

- Judgment calls you'll make:
    - How do you find and extract these line items from unstructured text? (Pattern matching? LLM? Both?)
    - What if the document has different line item names? (e.g., "Operating Costs" vs "Operating Expenses")
    - What if the document doesn't have all line items—how do you handle that?
    - How do you extract numeric values reliably without hallucination?
    - How do you know what currency and units the numbers are in?
    - What if the document has multiple years of data—do you extract all of them?
    - How do you present missing or ambiguous data in the Excel file so an analyst can spot it?
    Sample Output Example

Option B: Earnings Call / Management Commentary Summary

- Input: Earnings call transcript or management discussion section
    - [Input Document Examples](#)

- Output:
    - Management tone / sentiment (optimistic, cautious, neutral, pessimistic)
    - Confidence level (high, medium, low)
    - 3–5 key positives mentioned
    - 3–5 key concerns/challenges
    - Forward guidance (revenue, margin, capex outlook)
    - Capacity utilization trends
    - 2–3 new growth initiatives described

    [Output Example](#)

- Judgment calls you'll make:
    - How do you assess management tone? (Direct quotes? Sentiment? Your judgment?)
    - When guidance is vague, how specific should your summary be?
    - How do you avoid hallucinating information not in the transcript?
    - What if the transcript doesn't have all sections?

Submission Requirement

Please deploy your solution so it can be accessed via a **public link**.

- You may use free hosting options such as **Vercel, Netlify, Render, or similar**
- The deployed version only needs to support:
    - document upload
    - running the selected research tool(s)
- Reliability and usability matter more than performance
- Working API/LLM keys so 1-2 queries can be run while evaluating assignment

If there are limitations due to free hosting (file size, latency, etc.), clearly mention them.

Scope & Completion

We want a working tool to run and test where we can:

- Can upload a document
- The system processes the document
- At least **one** research tool (Option A or B) runs end-to-end
- The output is clearly usable for research
- Quality, cleanliness and structuring of output is the most important