Day-12 Task: Elaborate Complex Ideas

1. **Database Update**

    o   Added a new collection: **explanations** in MongoDB.

    o   Fixed get_db() to return the **db instance** (not client).

2. **Explain Route (/explain)**

    o   Built the POST endpoint:

    ▪   Takes fileId and userId.

    ▪   Fetches file text from **files collection**.

    ▪   Uses **ComplexityAnalyzer** → finds difficult parts.

    ▪   Calls **LLM explainer** → generates explanation with:

    ▪   Core idea

    ▪   Simplified explanation (2–3 lines)

    ▪   Example

    ▪   Analogy (optional)

    ▪   Saves explanation in **explanations collection**.

3. **GET Route (/explanations/<file_id>)**

    o   Fetches explanations for a given file & user.

    o   Converts ObjectId into strings for JSON response.

4. **NLTK Fixes**

    o   Installed missing resources (punkt, punkt_tab) so **ComplexityAnalyzer** works.

5. **Testing**

    o   Inserted a sample file into **files collection**.

    o   Posted request to /explain.

    o   ✅ Successfully generated and stored an explanation:

    ▪   Example output included simplified meaning + analogy of AI.