

AI Agent: **TEXTBOOK → NOTEBOOK** **NOTES GENERATOR**

Automatically convert textbooks into structured,
chapter-wise academic notes.

DEVELOPED BY UPENDRA



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Overview

An AI-powered notebook generator that converts textbooks (PDF/DOCX/TXT) into concise, structured academic notes.

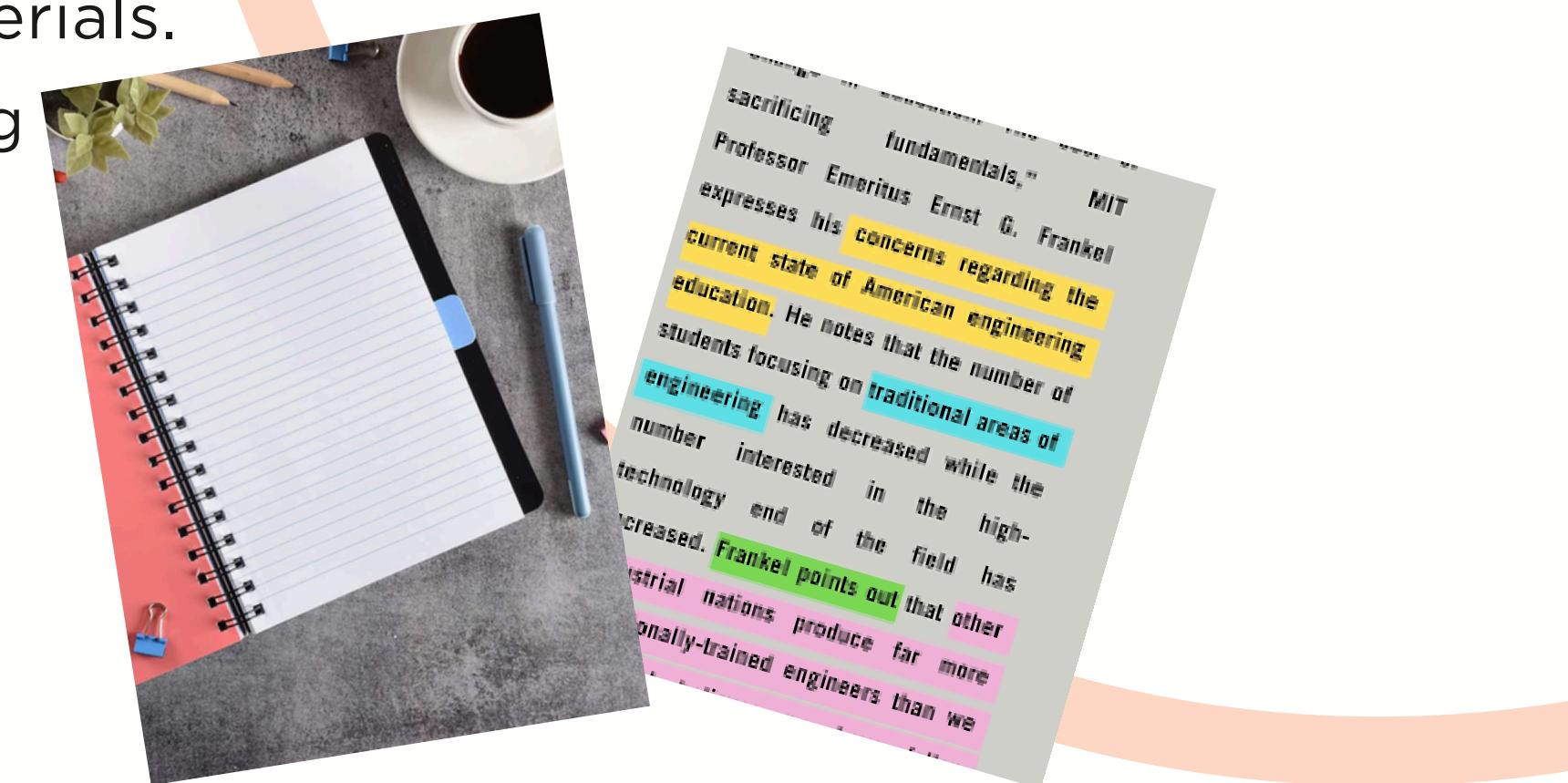
- Built using Python, Gradio, and LLaMA 3:8B.
- Detects chapters automatically.
- Summarizes each section into key concepts and summaries.
- Outputs structured, JSON-based notebook notes.



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Objectives

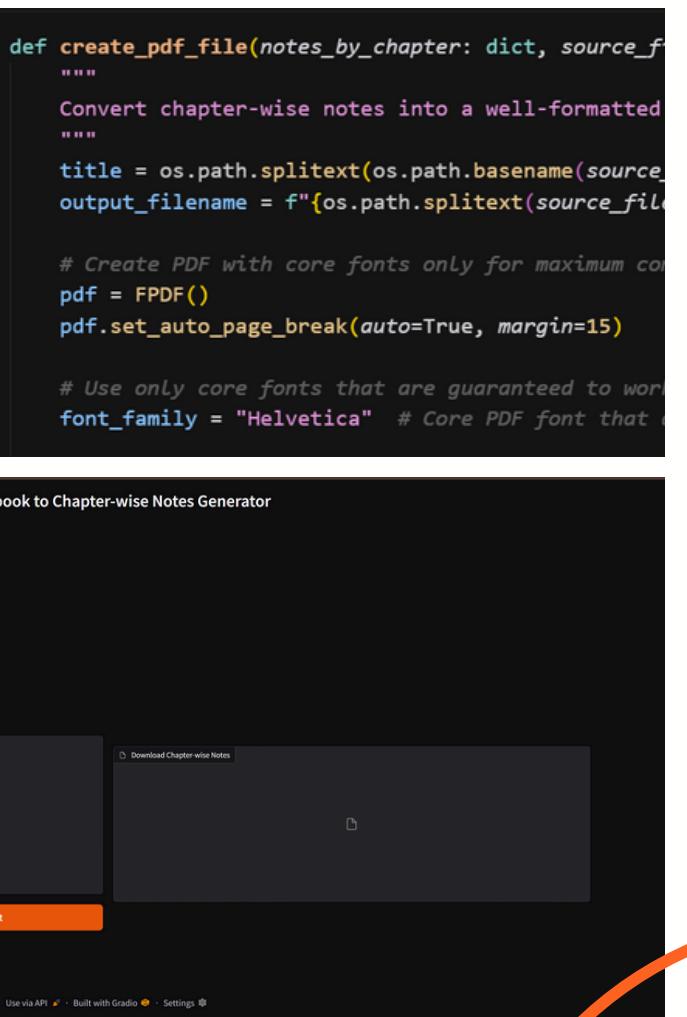
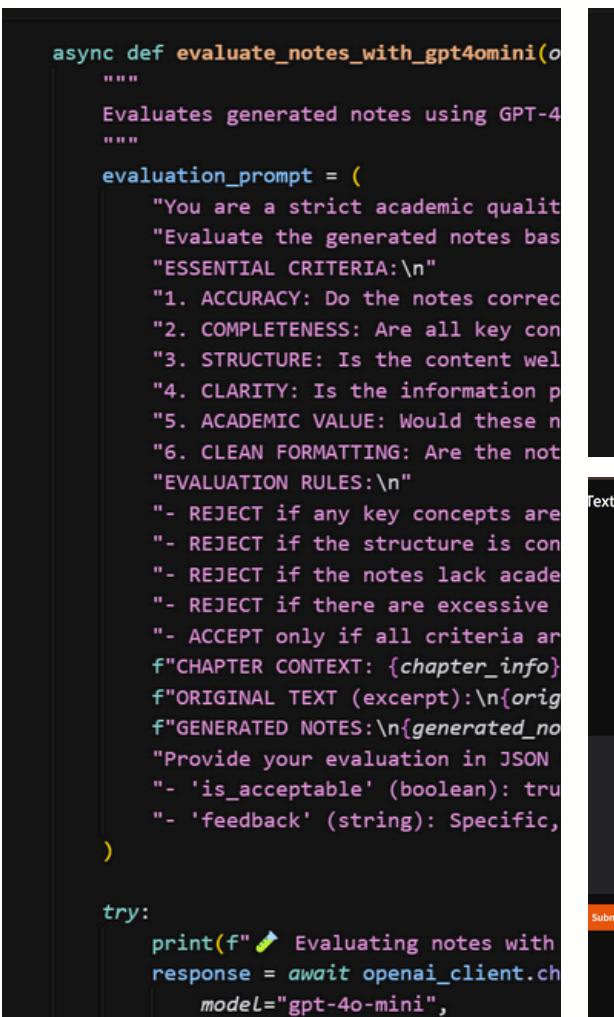
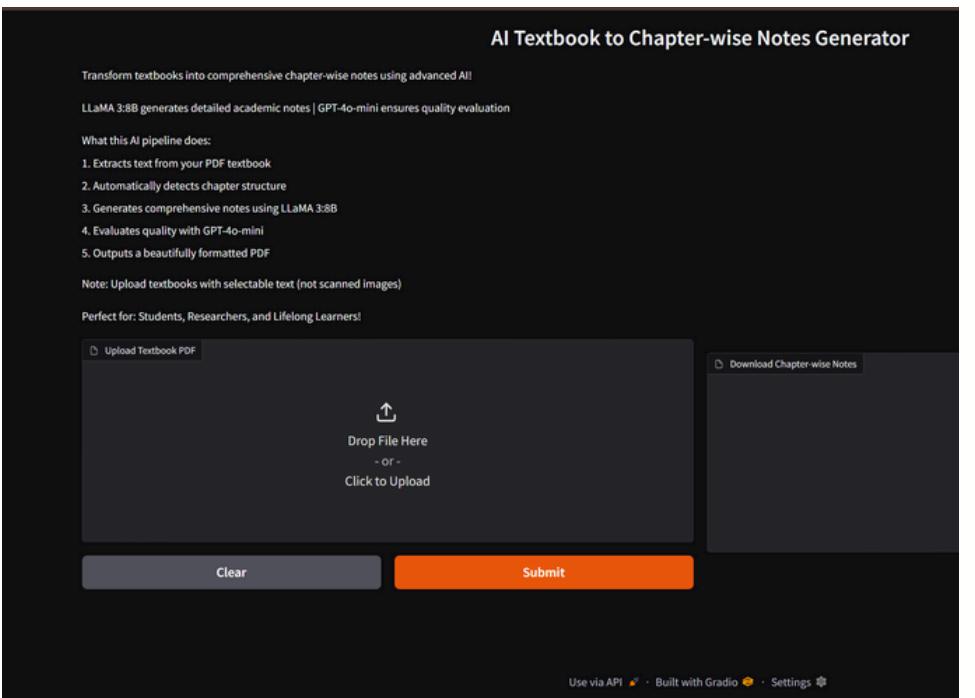
- Simplify the process of creating academic notes from textbooks.
- Generate structured, easy-to-study materials.
- Enable offline, local summarization using LLaMA 3:8B.
- Support evaluation and refinement via ChatGPT or Gemini API.



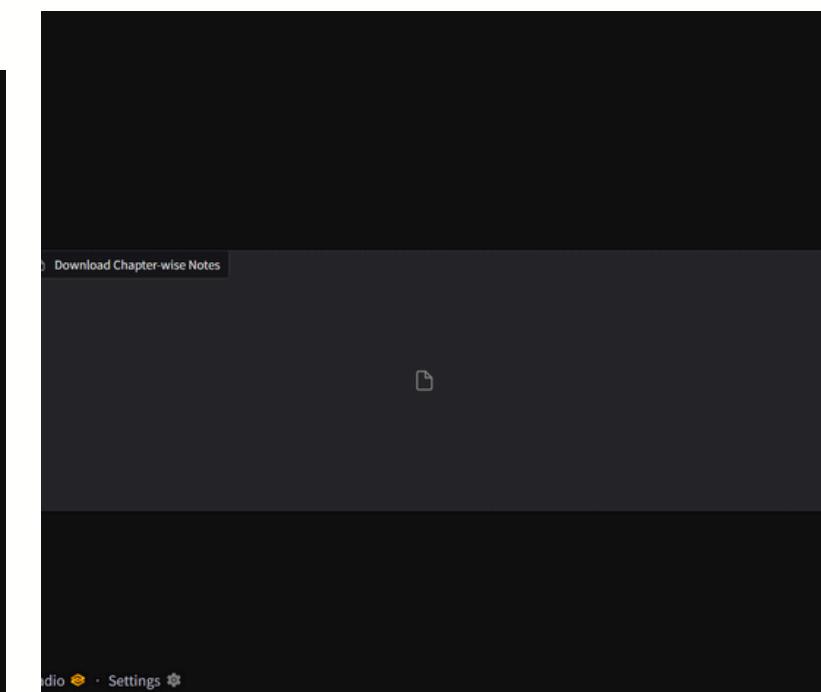
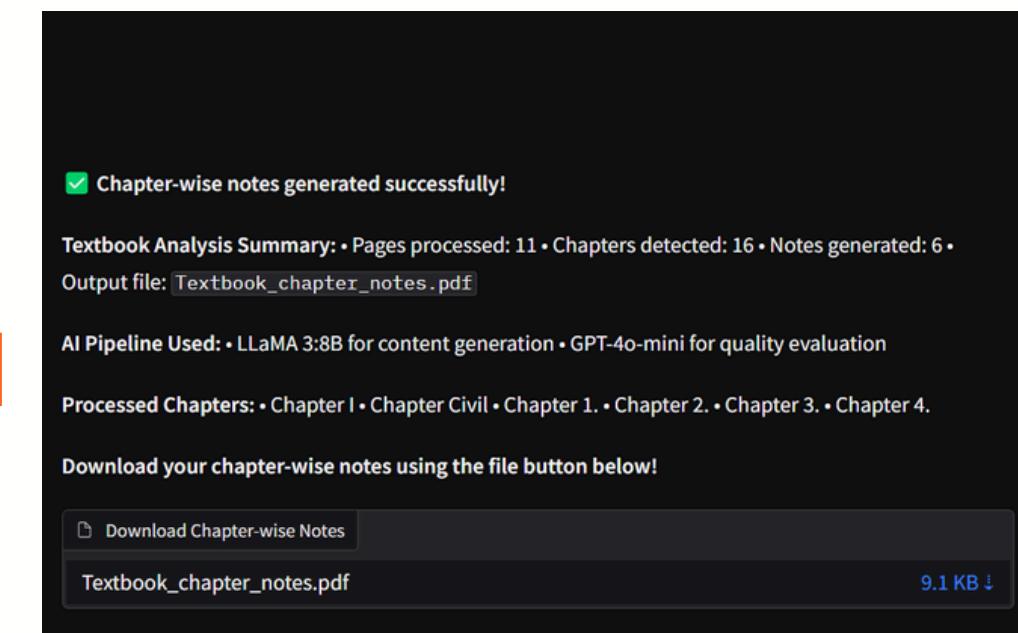
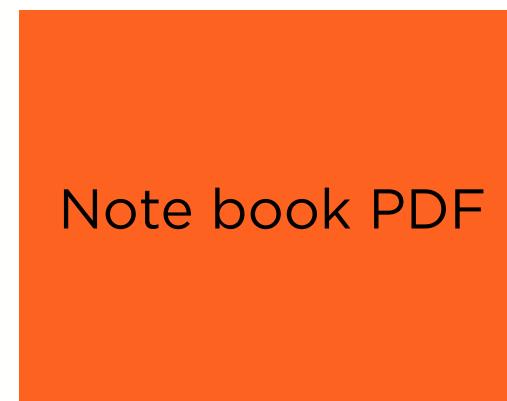
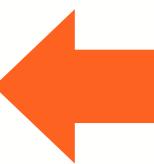
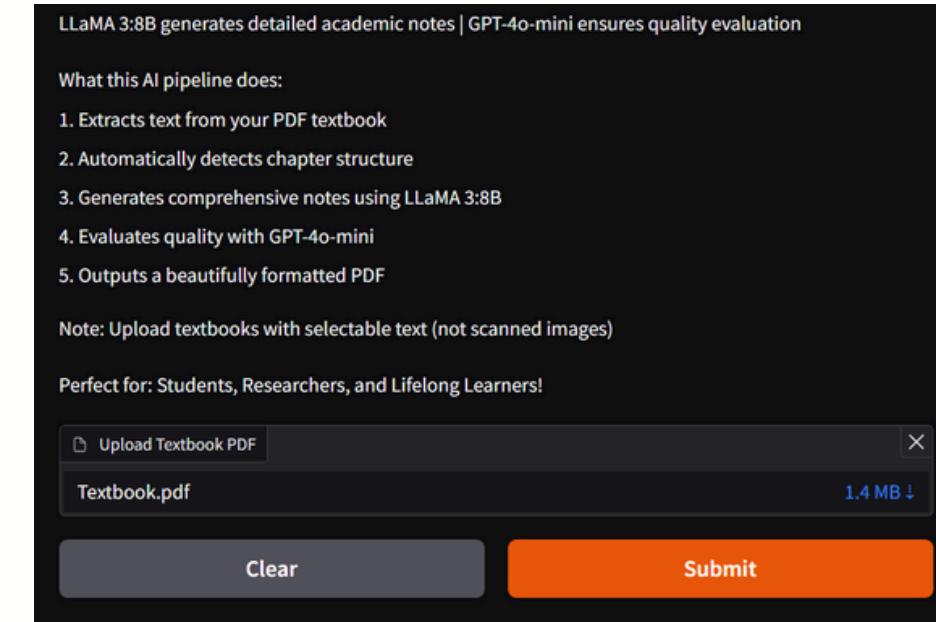
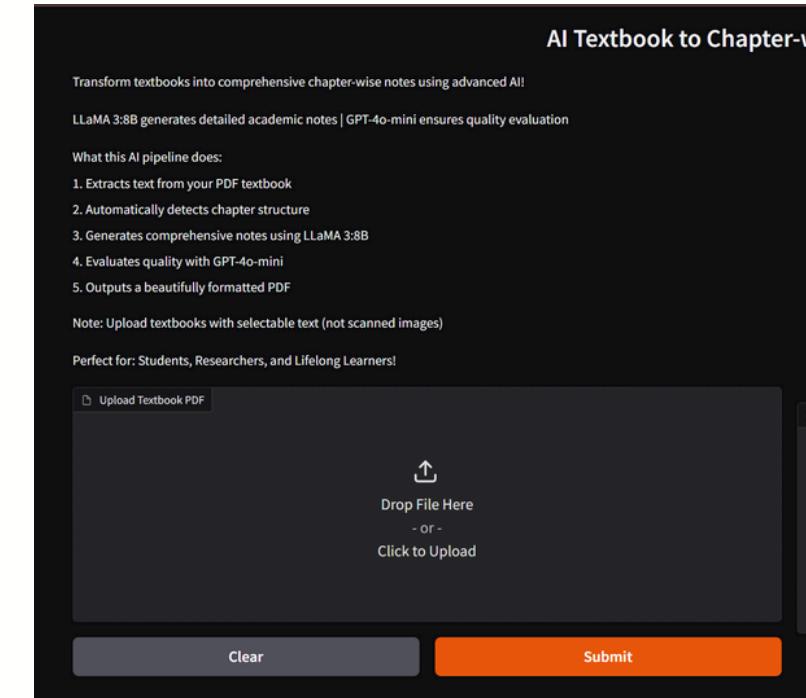
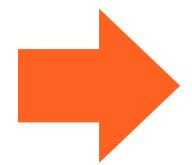
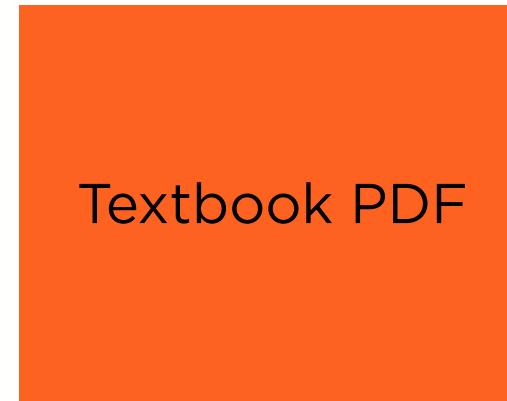
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Workflow

1. Upload a textbook file (PDF, DOCX, or TXT)
 2. Detect and split chapters automatically
 3. Summarize each chapter using LLaMA 3:8B
 4. Format into structured notes (Overview, Key Terms, Summary)
 5. Optionally evaluate using a secondary model
 6. Output JSON or view via Gradio UI



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Key Features

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- 1. Multi-format Input Support (.pdf, .docx, .txt)
- 2. Chapter Detection using regex logic
- 3. LLaMA 3:8B Summarization via Ollama
- 4. Interactive Gradio Interface
- 5. PDF Output Storage
- 6. Optional Evaluation Step
- 7. Works Offline – Local LLM support

Setup & Installation

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1. Clone the repository:

```
git clone https://github.com/your-username/textbook-notes-generator.git
```

2. Install dependencies:

```
pip install -r requirements.txt
```

3. Pull and run LLaMA model:

```
ollama pull llama3:8b
```

```
ollama serve
```

4. Run the Jupyter Notebook.

Technologies Used

- Programming Language: Python 3
- Framework: Gradio
- LLM Backend: LLaMA 3:8B (Ollama)
- Libraries: PyMuPDF, python-docx, Pydantic, JSON
- Evaluation: ChatGPT / Gemini API

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Conclusion

- Converts textbooks into structured, easy-to-study notes.
- Uses AI for summarization and structure.
- Helps students, teachers, and researchers save time.
- Fully local — no external API dependency.

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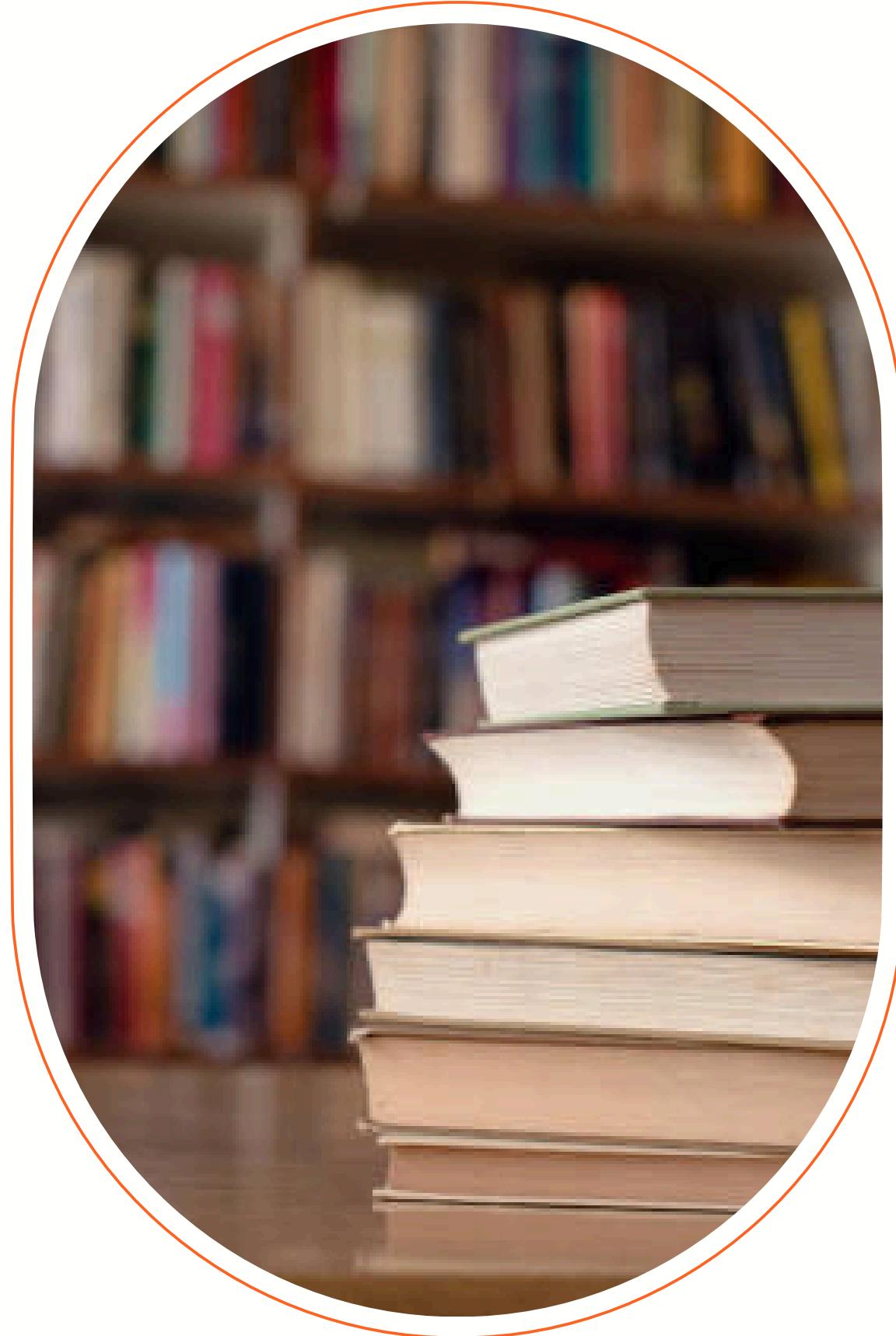
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***Thank
you***

