🧠 Recode System Demo

What We Give vs What We Get

🎓 Input (Given by Lecturer)

Type	Example
🖼️ File	Week5_Lists_DataStructures.pptx
📘 Module	CMPG111
📅 Week	8
🧩 Content	Slides about *Lists, Tuples, Sets, Dictionaries*
🔑 Goal	Teach students about **Tuples**

⚙️ System Processing (What Happens Inside Recode)

1. **Slides uploaded** to Recode.
2. **AI extracts text** from each slide.
3. **NLP model detects topic:** *"Tuples."*
4. **Links subtopics:** *for-loops*, *loops*, *data structures*.
5. **Creates topic record** in the database.
6. **Generates weekly challenge** ("Tuple Fundamentals").
7. **Auto-builds questions** (Bronze → Silver → Gold).
8. **Connects them to Judge0** for code testing.

🧩 Output (What We Get Automatically)

Output Type	Description	Example
🏷️ Topic	Stored in DB	*Week 5: Tuples*
🧱 Challenge	"Tuple Fundamentals: Storing and Working with Related Data"	Appears in student dashboard
👨‍💻 Questions	5 auto-generated coding tasks	Bronze → Gold progression

Output Type	Description	Example
⚙️ Auto-Marking	Code evaluated instantly	Powered by Judge0
📊 Analytics	Completion & performance data	Shown in lecturer dashboard

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💻 Example Output (Real Challenge)

Tier	Title	Skill Practised
🥉 Bronze	Create Student Record	Make and print tuples
🥉 Bronze	Access Coordinate Parts	Use tuple indexing
🥈 Silver	Count Tuple Elements	Analyse tuple data
🥈 Silver	Process Score Records	Loop and compare tuples
🥇 Gold	Analyse Temperature Data	Multi-step data analysis

📃 Summary

From	To
🎓 Lecturer's Slide	🧠 Detected Topic
🧠 Detected Topic	🧱 Challenge Record
🧱 Challenge Record	👨‍💻 Auto-Generated Coding Questions
👨‍💻 Student Attempts	⚙️ Auto-Marked Submissions + Lecturer Analytics

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✨ In short:

We give: lecture slides.
We get: ready-to-use, auto-graded coding challenges — instantly.