# **Project Objective – Assignment Tracker**

The **Assignment Tracker** project is designed to help university students and professors manage academic tasks in a simple, structured, and collaborative way. The system provides a **command-line interface** (CLI) for entering assignments with essential details such as student ID, course, title, deadline, weight, and estimated study hours. Each assignment is stored locally in a CSV file and can be automatically synchronized with a **Google Sheet dashboard**, making it easy to visualize progress and share information across multiple students.

By combining **local tracking** with **cloud synchronization**, the project demonstrates how everyday academic workflows can be streamlined using Python automation and Google APIs.

## **Core Objectives:**

- 1. Centralized Assignment Management
  - Store all student assignments with unique IDs.
  - Include deadlines, weights, and estimated hours for planning.
- 2. Multi-Student Support
  - Use **Student ID** as a unique identifier.
  - Allow professors/advisors to filter and view assignments per student.
- **3.** Deadline Tracking
  - List assignments due in the next N days.
  - Highlight urgency to prevent missed submissions.
- 4. Progress Monitoring
  - Mark assignments as "done."
  - Keep a history of tasks with timestamps.
- 5. Google Sheets Synchronization
  - Export and update assignments to a shared Google Sheet.
  - Enable professors and collaborators to view tasks in real time.
- **6.** Scalability & Simplicity
  - Lightweight CSV storage for portability.
  - Easy to set up on any computer with Python 3.

## **Setup Instructions:**

To set up Google integration, first create a new project in Google Cloud Console and enable the Google Sheets API and Google Drive API. Next, create a Service Account under APIs & Services → Credentials, generate a JSON key, and download it as service\_account.json (this file is private and must be kept secure). Then, create a new Google Sheet in your Google Drive, copy its Sheet ID from the URL, and add two tabs named Assignments and Subtasks. Finally, share the sheet with your service account's email (found inside the JSON key) and give it Editor access so your Python script can write to it.

Watch the PPT to understand it better link

#### **Features**

#### **Initial Pages**

```
assignments.csv x

id,student_id,student_name,course,title,deadline,weight,est_hours,status,created_at

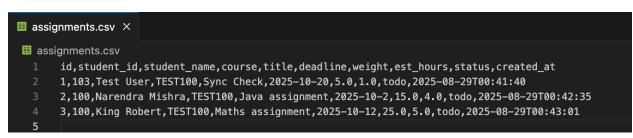
A B C D E F G H I J

id student_id student_name course title deadline weight est_hours status created_at

id student_id student_name course title deadline weight est_hours status created_at

in the student of the
```

## 1. Adding an item (assignment)



	Α	В	С	D	E	F	G	Н	I.	J	К
id		student_id	student_name	course	title	deadline	weight	est_hours	status	created_at	
	1	103	Test User	TEST100	Sync Check	2025-10-20	5	1	todo	2025-08-29 0:41:40	
	2	100	Narendra Mishra	TEST100	Java assignment	2025-10-02	15	4	todo	2025-08-29 0:42:35	
	3	100	King Robert	TEST100	Maths assignment	2025-10-12	25	5	todo	2025-08-29 0:43:01	

#### 2. List all the tasks

• nar			<pre>mo % /usr/local/bin/pythor    Title</pre>	n3 tracker.py list Deadline	W <sup>9</sup> 6	Hrs	Status				
2	100 100	TEST100 TEST100	Java assignment	2025-10-2 2025-10-12	15.0 25.0		todo				
3	TOO	IESITOR	Maths assignment	2023-10-12	23.0	שיכ	LOGO				
1	103	TEST100	Sync Check	2025-10-20	5.0	1.0	todo				
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#### 3. "Due In" view (tie awareness)

- narendramishra@Mac demo % /usr/local/bin/python3 tracker.py due-in --days 7 No assignments due in next 7 days.
- narendramishra@Mac demo % /usr/local/bin/python3 tracker.py due-in --days 30
   No assignments due in next 30 days.
- narendramishra@Mac demo % /usr/local/bin/python3 tracker.py due-in --days 100
   Assignments due in next 100 days:
  - #2 [100] TEST100 Java assignment (due 2025-10-2, in 34 days) [todo]
  - #3 [100] TEST100 Maths assignment (due 2025-10-12, in 44 days) [todo]
  - #1 [103] TEST100 Sync Check (due 2025-10-20, in 52 days) [todo]

#### 4. Mark Progress (Done)

<ul> <li>#I [103] IE31100 - Sync check (due 2023-10-20, In 32 days) [1000]</li> <li>narendramishra@Mac demo % /usr/local/bin/python3 tracker.py doneid 1</li> <li>Marked assignment #1 as done.</li> <li>narendramishra@Mac demo % /usr/local/bin/python3 tracker.py list</li> </ul>										
ID	StuID	Course	Title	Deadline	₩%	Hrs	Status			
2 3 1	100 100 103	TEST100 TEST100 TEST100 hra@Mac dem	Java assignment Maths assignment Sync Check	2025-10-2 2025-10-12 2025-10-20	15.0 25.0 5.0	5.0	todo todo done			

## 5. Sync After a manual update

	Α	В	С	D	E	F	G	Н	I	J
ic	i b	student_id	student_name	course	title	deadline	weight	est_hours	status	created_at
Г	1	103	Test User	TEST100	Sync Check	2025-10-20	5	1	done	2025-08-29 0:41:40
	2	100	Narendra Mishra	TEST100	Java assignment	2025-10-02	15	4	todo	2025-08-29 0:42:35
Γ	3	100	King Robert	TEST100	Maths assignment	2025-10-12	25	5	todo	2025-08-29 0:43:01