Project Title:

CLI-Based Project Tracker

Problem Statement:

Freelancers and developers often manage multiple client projects with varying hourly rates, making it difficult to track work hours, calculate billing, and maintain logs manually. This project addresses that problem with a simple, automated solution that handles **project creation**, **time logging**, **billing**, and **CSV export** — all via an intuitive GUI.

Project Overview:

This is a desktop-based **Project Tracking System** built using Python and the Tkinter library. The tool allows users (like freelancers or developers) to manage multiple projects, track time spent on each task, calculate billing automatically based on hourly rates, and export logs for invoicing or reporting.

Key Features:

Feature	Description
➕ Add Projects	Add multiple projects with unique names and hourly billing rates
🕒 Log Time Entries	Record start time, end time, and notes for each project task
💰 Auto Billing Calculation	Automatically calculates billable hours and multiplies with hourly rate
📤 Export Logs to CSV	Save all logs to a CSV file with detailed project/task records
📊 Project Summary	View total hours and earnings per project in a dedicated summary section
✅ GUI-Based Interaction	User-friendly layout with dropdown menus, table view, and feedback alerts

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Technologies Used:

Technology	Purpose
Python 3	Core programming language
Tkinter	GUI development for desktop interface
Datetime module	Time parsing and duration calculation
CSV module	Exporting logs to external files
ttk.Treeview	Rendering project logs in table form

Core Logic:

- Projects are stored in a dictionary:

python

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projects = { "project_name": {"rate": 500, "logs": [...]} }

- Each time log stores:
    - Start time (HH:MM)
    - End time (HH:MM)
    - Duration (calculated in hours)
    - Optional note
- GUI fields collect user input, validate formats (e.g., correct time, numbers), and update the data in real time.
- Treeview widget is used to display logs with billing info.
- A summary section totals hours and earnings per project.
- CSV export function generates a structured log file for external use (billing/invoicing).

What You Learned:

- Designing user-friendly GUI layouts using Tkinter
- Implementing time calculations with datetime.strptime()

- Using Treeview for dynamic table rendering in GUI
- Validating user input and showing error/info messages
- Storing structured data in Python dictionaries
- File handling and exporting logs using csv.writer
- Event-driven programming in desktop applications

How to Explain It in an Interview (1–2 min):

"I built a Project Tracker GUI tool for freelancers using Python and Tkinter. The app allows users to manage multiple projects by assigning hourly rates and tracking time logs. Users can log time sessions with start and end times, and the tool automatically calculates billable hours and total billing amounts. The project also features a summary section that shows total earnings per project and an export option to save logs as CSV files. I designed the interface with usability in mind using Tkinter widgets like Entry, OptionMenu, Treeview, and messageboxes. This helped me understand real-world event-driven programming and time-based billing logic."