

Marvellous Study Tracker App

Technology: Java

Project Overview

The **Marvellous Study Tracker App** is a **console-based Java application** designed to help students systematically **log, track, summarize, and export** their study activities.

It allows users to maintain daily study records, view summaries grouped by **date or subject**, and export all logs into a **CSV file** for offline reference.

This project demonstrates practical usage of **Java Collections, File I/O, and Object-Oriented Design** in a real-world, utility-driven application.

Key Features

- **Insert Study Log**
 - Record study sessions with **date (auto-generated), subject, duration, and description**.
- **Display Logs**
 - View all study logs currently stored in memory.
- **Summary by Date**
 - Calculate & display **total study hours** grouped by date.
- **Summary by Subject**
 - Calculate & display **total study hours** grouped by subject.
- **Export to CSV**
 - Export all study logs into a **CSV file (MarvellousStudy.csv)** for offline tracking.
- **User-Friendly Console Menu**
 - Menu-driven interface with **switch-case navigation** for ease of use.

Technologies Used

- **Language:** Java
 - **Packages & APIs:**
 - `java.util.*` → Data structures (ArrayList, TreeMap), user input via Scanner.
 - `java.time.LocalDate` → Auto-captures the current date for study logs.
 - `java.io.*` → File handling and CSV export.
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Project Flow

1. Launch the application → **Main Menu displayed.**
2. **Choice 1:** Insert new study log → User provides subject, duration, description → Date auto-generated.
3. **Choice 2:** Display all study logs stored in memory.
4. **Choice 3:** Display summary grouped by **date** (total hours per day).
5. **Choice 4:** Display summary grouped by **subject** (total hours per subject).
6. **Choice 5:** Export all study logs to `MarvellousStudy.csv`.
7. **Choice 6:** Exit application.

Classes & Responsibilities

StudyLog

- Represents a single study session.
- **Attributes:** `LocalDate date`, `String subject`, `double duration`, `String description`.
- **Methods:** `Constructor`, `getters`, `toString()`.

StudyTracker

- Manages all logs in memory.
- **Attributes:** `ArrayList<StudyLog> database`.
- **Methods:** `InsertLog()`, `DisplayLog()`, `SummaryByDate()`, `SummaryBySubject()`, `ExportCSV()`.

StudyTrackerApp (Main Class)

- Contains `main()` method.
- Handles **menu-driven interface** and user input.
- Calls appropriate methods from `StudyTracker`.

GitHub Repository :

 [Marvellous Study Tracker App](#)

Example Usage (Console Flow)

```
`===== Marvellous Study Tracker =====`
```

1. Insert Study Log
2. Display All Logs
3. Summary By Date
4. Summary By Subject
5. Export to CSV
6. Exit

```
Enter choice: 1`
```

Enter Subject: Java Programming Enter Duration (hours): 2.5 Enter Description: Practiced ArrayList and TreeMap Study log added successfully for date: 2025-09-13

Sample Exported CSV (MarvellousStudy.csv)

Date,Subject,Duration,Description

2025-09-13,Java Programming,2.5,Practiced ArrayList and TreeMap

2025-09-13,Database,1.5,Revised SQL Joins

Present in an Interview

I developed a **console-based Java application** called the **Marvellous Study Tracker App**.

It allows students to **log daily study sessions** with subject, duration, and description.

The application can **display all logs, generate summaries by date and subject, and export records into a CSV file** for offline use.

It is built entirely in **Core Java** using **Collections (ArrayList, TreeMap), File I/O, and LocalDate API**.

"This project improved my skills in **Java OOP, data structures, file handling, and menu-driven application development**."