Introduction

A habit is something you do regularly, and over time, it often becomes second nature. The habit-tracking app is a straightforward, user-friendly tool designed to help people establish consistent routines and keep an eye on their progress.

Written in Python with an object-oriented approach, it's structured to manage habits efficiently and scale easily. Idea is to let users track both daily and weekly habits with a simple system, encourages regular check-ins and shows clear progress. The key features include the add function, where you can set up a new habit by naming it, setting a goal, and choosing how often it repeats; the check function, which lets you mark a habit as done for the day or week and automatically updates your streaks; the remove function, for deleting habits you no longer want to track; and the analyze function, which gives helpful insights like your longest streak or a list of all your current habits.

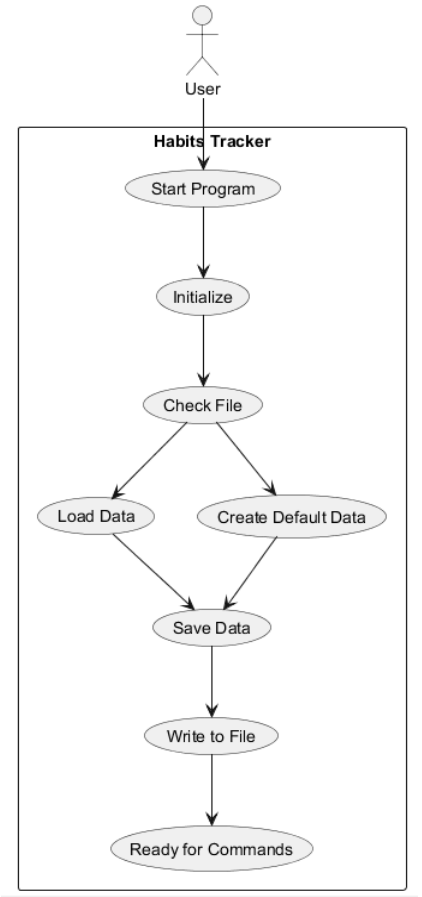
Concept

The proposed program will operate upon the principles of object-oriented programming, utilizing classes and objects to structure its functionality. The initialization process begins with the creation of a "Tracker" instance responsible for recording the current date and loading pre-existing data and habits from a designated data file. Habits are encapsulated within a dedicated class to promote organized and modular management of habit-related data. The project architecture comprises three files: a JSON file for persistent data storage, a main Python script serving as the primary execution point, and an auxiliary Python file containing relevant functions and class definitions.

Data Storage

For simplicity and efficiency, the program will utilize a JSON file for streamlined data storage and to avoiding reliance on external frameworks or libraries. Implemented in Python, the application leverages standard libraries for JSON handling.

The program manages data through read and write operations to a JSON file. During initialization, existing data is loaded from the file; if not it will create a default data file, maintaining continuity.



User Interface

The program is designed to generate formatted tables that improve the presentation of habit-related information within the console environment. The utilization of structured tables not only elevates visual appeal but also offers a comprehensive overview of the data, thereby supporting more thorough analysis.

Additionally, the program features a command-line interface (CLI) characterized by its user-friendly design, incorporating distinct commands to enable seamless user interaction. The CLI displays habit data in tabular form and prompts users for input through intuitive commands, aiming to simplify navigation and significantly enhance the overall user experience.

- Commands (case-insensitive):
    - "add" – Add new habit
    - "done" – Mark task done
    - "remove" – Remove habit
    - "show" – Show analytics options
    - "h" – Help
    - "q" – Quit

UML Diagram