

Phase 3 Python OOP Development

Repository Link : <https://github.com/JustinEckard/Python-CLI-Habit-Tracker>

Project Overview

The Python CLI Habit Tracker is a robust command-line application designed to help users create, track, and analyze their habits over time. Built using object-oriented programming principles, this application offers a straightforward yet powerful interface for habit management.

Key Features

- **Intuitive Command-Line Interface:** Users interact with the application through simple text commands, with helpful prompts and instructions guiding them through every operation.
- **Comprehensive Habit Management:** Full CRUD (Create, Read, Update, Delete) operations for habits and check-ins.
- **Data Persistence:** Implemented using SQLite, ensuring user data is safely stored and readily accessible across sessions.
- **Analytics:** Track current streaks, longest streaks.
- **Modular Architecture:** Codebase organized into distinct modules (habit class, check-in class, habit streak class) for enhanced maintainability and scalability.
- **Thorough Documentation:** Extensive use of comments and docstrings to explain code functionality and implementation details.
- **Automated Testing:** Comprehensive test suite for verifying all CRUD operations and ensuring application reliability.

Implementation Details

The application leverages Python's object-oriented capabilities alongside SQLite for database operations. This combination provides a lightweight yet powerful solution for habit tracking that requires no external servers or complex setup procedures. The modular design not only improves code organization but also simplifies future enhancements and maintenance.

Improvements from Phase 2

Following feedback from Phase 2, the project now includes:

- Public GitHub repository for code review and collaboration - Please find the link at the top of the document
- Enhanced code documentation with descriptive comments and docstrings
- Refined modular structure with clear separation of concerns
- Expanded analytics capabilities for better habit tracking insights
- Comprehensive seed data for thorough testing and demonstration - can be run using the `pb_create.py` file to have a fresh set of data for testing.
4 weeks of test data and 8 habits with different periodicities.
- Complete test suite for automated verification of application functionality

- Updated .gitignore to not include cache files