

Python Mini Project – Assignment Guide

Objective

The objective of this assignment is to design and implement a menu-driven Python console program using the concepts covered in class. Students may choose any simple real-life theme while strictly adhering to the rules and steps defined in this document.

Step 1: Choose a Project Theme

Select one simple real-world problem such as a student record manager, expense tracker, library system, contact book, inventory tracker, or any similar application. The complexity may vary based on the student's comfort level.

Step 2: Data Storage Design

The program must use at least one list and one dictionary. A recommended structure is a list of dictionaries, where each dictionary represents a single record.

Step 3: Menu and Loop Implementation

The application must be menu-driven and use a while loop to repeatedly display options. A minimum of four menu options is required.

Step 4: Functions

A minimum of three user-defined functions must be created and used within the program. Functions should logically separate tasks such as adding, viewing, or searching records.

Step 5: Conditional Statements

At least three if/elif/else blocks must be used for menu selection, validation, or decision-making logic.

Step 6: Methods Usage

The project must use a minimum of three list methods, three dictionary methods, and two string methods taught in class.

Step 7: Exception Handling

At least one try/except block must be used to handle invalid user input.

Step 8: File Handling

The program must implement file handling to either save data to a file or load data from a file using `open()` or `with open()`.

Submission Instructions

Submit the Python source file (.py or .ipynb), the data file if used, and screenshots showing the program menu and sample output.

README File Instructions

Each student must include a README.md file describing the project. The README should include the project title, description, features, concepts used, instructions to run the program, input guidelines, file handling details, and author information.