

Report on Mini Project Assignment: Daily Calorie Tracker CLI

Course: Programming for Problem Solving using Python

Assignment Title: Building a Calorie Tracking Console App

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Programme : Btech cse (AI AND ML)

Introduction

For my first python assignment, I got a "Daily Calorie Tracker." Since I am specializing in AI and Machine Learning, I know that data is very important. Before building complex AI models, I wanted to understand how to collect, process, and save user data using basic Python. SO , I study how we store data (we do it in csv) and I learn that from simple python programmes u cannot do it , so I import datetime module from python library

This program allows a user to input the number of meals they had, the name of the meal, and the calories for each. It calculates the total intake, compares it to a daily limit, and generates a formatted report. Finally, it saves this data into a text file so the record isn't lost when the program closes.

2. What I Learned

Writing this code helped me understand several core concepts of Python that we discussed in class:

- **Lists ([]):** I learned how to use lists (meal_names and calorie_amounts) to store multiple items. At first, I didn't know how to keep track of the meals, but list.append() made it easy to add data dynamically inside a loop.
- **Input Validation (Try/Except):** One of the biggest things I learned was preventing the program from crashing. Initially, if I typed "apple" when the program asked for a number, it would show a red error message. I learned to use try and except ValueError to catch these mistakes and ask the user again.
- **String Formatting (f-strings):** I figured out how to make the output look like a real table. Using formatting like :<20 (left align) and :>10 (right align) helped me line up the meal names and numbers perfectly.
- **File Handling:** This was new to me. I learned how to open a file using with open(...), which is safer because it automatically closes the file. I also learned the difference

between 'w' (write) and 'a' (append) modes—I used append so I don't delete my old history every time I run the code.

3. Problems I Faced and How I Solved Them

Problem 1: The "Crash" on Invalid Input

The Issue: When asking for the number of meals or calories, if I accidentally hit the spacebar or typed a letter, the program stopped working immediately. **The Solution:** I wrapped my input() code inside a while True loop with a try-except block. This way, if the input is wrong, it just prints "Invalid input" and loops back to ask again instead of crashing.

Problem 2: Handling Zero Meals

The Issue: When testing, I entered "0" for the number of meals. The program tried to calculate the average calories (total / meal_count), which caused a "Division by Zero" error. **The Solution:** I added a simple if statement (if meal_count > 0:) before doing the math. This ensures the program only does the division if there is actual data to calculate.

Problem 3: Text Alignment in the Report

The Issue: When I printed the report, long meal names pushed the calorie numbers to the right, making the table look jagged and messy. **The Solution:** I searched online and found out about f-string padding. By using {name:<20}, I forced the computer to reserve 20 spaces for the name, keeping the columns straight.

4. Output

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Python Debug Console + - [ ] ... |
PS C:\Users\soumy\OneDrive\python> & 'c:\Users\soumy\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\soumy\.vscode\extensions\ms-python.debugpy-2025.16.0-win32-x64\bundled\libs\debugpy\launcher' '65187' '--' 'c:\Users\soumy\OneDrive\python\tracker.py'
=====
Welcome to the Daily Calorie Tracker!
=====
This tool will help you log your meals and track
your total calorie intake against a daily limit.

How many meals would you like to log? 3

--- Logging Meal 1 ---
Enter name for meal 1: burger
Enter calories for 'burger': 147

--- Logging Meal 2 ---
Enter name for meal 2: pizza
Enter calories for 'pizza': 123

--- Logging Meal 3 ---
Enter name for meal 3: garlic bread
Enter calories for 'garlic bread': 159

What is your daily calorie limit? 500

=====
SESSION SUMMARY
=====
Meal Name          Calories
-----
burger              147
pizza               123
garlic bread        159
-----
Total:              429
Average:            143.00
Your Limit:         500
=====

SUCCESS: You are 71 calories UNDER your limit.
```