Python Fundamentals Lab

In this lab, you will use the fundamental Python skills we've learned to create an interactive application.

You will have the entire class period to complete the lab. At the end of class, you'll share your final deliverable with your instructor for review. You can choose to work on the lab individually or with your classmates, but each person must turn in their own work.

Application Options

Choose one of the following for your lab:

Application	Problem Statement
Option No. 1: Budget Tracker	Your cousin's lemonade stand wants to enter the 21st century and track their budget using a Python application that stores data in a .csv file.
Option No. 2: Study Review App	Finally, it's the most exciting season of the year: standardized testing season! Create an app that allows users to create and manage review questions in preparation for an upcoming exam.

Deliverables

No matter what project you choose, you will submit a Jupyter Notebook containing:

- A Python application that accepts user input to interact with users

Specific Requirements for Each Application:

Budgeter

User Stories

1. When I start up the application, I am given the following options:
    a. Add a new entry to the budget tracker
    b. Display the total account balance
    c. View all previous entries
2. If I choose to add a new entry, I am asked to provide:

   a. A title describing the budget item
   b. Whether the budget item is Income or Expense
   c. The total amount of the budget item
   d. The date of the transaction in "MM-DD-YYYY" string format
3. If I choose to display the total account balance:
   a. The program adds all income and subtracts all expense items to display the net balance
4. If I choose to view all previous entries:
   a. The program prints all details of all previous entries in a human readable format

Technical Requirements

Stores all entries in a .csv file
Load the previously created entries when the user initializes the application

Stretch Goals

The program allows you to track multiple accounts
The program can analyze profit and loss for a specific month or year
The program can provide high level stats, such as average transaction size
The program can track and analyze transactions by specific customers or vendors

Study Review

User Stories

1. When I start up the application, I am given a choice between the following options:
   a. Begin a review session
   b. Add a new question to the list
2. If I choose to add a new question, I am asked to provide:
   a. The question text
   b. A list of possible responses separated by commas
   c. Designation of which response is correct
   d. A list of topic tags separated by commas
3. If I choose to start a review session:
   a. The program presents a random question from the question list
   b. I am provided the question text and all response options with labels
   c. I am prompted to provide my response using the labels presented
   d. The program informs me of the correct answer
   e. I am prompted to choose whether to continue the session or quit

Technical requirements

Store the list of created questions in a .csv file
Load the previously created questions when the user initializes the application

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Stretch goals

The program allows you to limit the session to questions from a specific topic
The program keeps track of your right and wrong answers to each question
The program uses some logical system for giving you questions you've answered wrong
The program allows you to load questions from different tests, tracked in different files
The program tracks the average time you've taken to answer each specific question