

Introduction to Programming

Reichman University 2022

Final Project, done individually and alone

40% of the final grade

In this project, you will implement the material learned in the course by writing your own Python program, according to the following guidelines.

You need to submit your work no later than July 5th, 2022 at 23:59 to me by email (millermo@me.com) and should include:

- A URL to the Google Colab notebook. Make sure to write your name in the notebook and set sharing permissions to “anyone with the link”.
- The configuration file your program uses

Stage 1 – Your program idea and writing the program specification

You need to think of an idea for your own program you wish to implement in this project. The program needs to implement the concepts learned in the course by answering the following requirements:

- Your program needs to include some interaction with the external data source by implementing access to an API of your choice.
- Your program should receive some input from the user using the keyboard and act upon it in a meaningful way.
- Your program should load some configurations from a text file (raw text, not excel) and use those configurations in a meaningful way.
- Your program should present some text output onto the screen.
- Your program should present some graphs onto the screen (at least 3).

- Your program should generate an output text file that has some meaningful use (a plain text file, not an excel file).
- Your program should include at least one function defined and written by you.
- Your program should use data types and variables upon need, but it must show the use of a *List* and a *Dictionary* data type.
- Your program should use at least one loop (for or while).
- You are not allowed to use libraries and commands not learned in the course (apart from one API-related package in case you chose to interact with a website using an API). You are not allowed to use Pandas or Seaborn.

In the submitted notebook (top of notebook) you need to explain the idea for your program and describe the specification of the program, meaning, what is the program's functionality.

The above list of requirements will assist in thinking about the various functionalities of your program and writing your specification.

Stage 2 – Implementing your program

You need to write your program according to your specification in Python and meet all the requirements presented in stage 1.

You need to write your program as a Google Colab notebook and split it into code cells.

You should include markdown/text cells describing the flow of your code.

You should present all relevant outputs in the notebook and explain them.

You should write code comments where appropriate.

Your project will be evaluated using the following criteria:

- The extent to which your program is useful and meaningful.
- The extent to which your program answered the described specification.
- Code correctness and accuracy.
- The quality of explanations and comments.

- The extent to which your program handles special use cases and boundary conditions.
- The level of clarity of your code.

Enjoy your work!

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