

Ashley Indar CPS 3320 Final Project Reflections

Final Progress *Your final amount of progress (and how it compares to your safe/stretch goals).*

My budget program was designed to allow college students to track their income versus their expenses to revise their spending and promote saving in light of the financial struggles that have sprouted as a result of the effects of COVID-19. My final program allows the user to enter their desired amount of income and expenses through the use of while, if/else (and nested if/else), and for loops. The user's total expenses are then subtracted from their total income to indicate whether they have a sufficient or insufficient amount of funds as a result. It is a handy way for the user to keep track of and stay accountable for their expenses and spending through using simple functions to allow the user to add sources of income & their amounts, expenses & their amounts, as many times as they'd like, and have their expense status be displayed. All of this is performed within the user's Command Prompt or Terminal shell for simplicity and ease of use.

The step-by-step breakdown is as follows:

1. Import the sys module from the Python Standard library to access System-specific parameters and functions. For more information on this module please visit: <https://docs.python.org/3/library/sys.html>
2. Define class and assign variables to hold and perform key budget functions.
3. Define a function to allow user to add multiple incomes (if necessary).
4. Define a function to track total incomes (if more than one).
5. Define a function to allow user to add multiple incomes (if necessary).
6. Define a function to track total expenses (if more than one).
7. Define an error handling function in case the user opts not to add a source of income or expenses at all. The program will not execute if it does not have any incomes or expenses to keep track of.
8. Define a function to allow the user to enter the dollar value amount and name of their income. This is accomplished using a nested if else loop within a while loop, followed by initializing a for loop to hold income data.
9. Define a function to allow the user to enter the dollar value amount and name of their expense. This is accomplished using a nested if else loop within a while loop, followed by initializing a for loop to hold expense data.
10. Define a function to compute whether the user has a sufficient or insufficient amount of funds by subtracting their total expenses from their total income. Finally, it allows the user to repeat the process if desired and either resets the program to allow the user to do so without having to manually run it again, or close the program if the user does not desire to repeat. This is all accomplished using if/else statements.
11. Define a function to reset the program and set all values to 0 again in case the user decides to repeat the process. This is accomplished by initializing all variables to 0 and deleting any previously stored information for incomes and expenses.

12. Define a function to exit the program once the user has decided not to repeat the process and is ready to exit the program). This is done using the `sys.exit()` function allowing the user to exit the program once indicating they desire to do so.
13. This calls on the `Application()` class allowing the program to run.

Helpful/Unhelpful Findings *Things you found helpful and things you found unhelpful along the way.*

My helpful findings during the progression of this project was mainly from the information I found on the [import sys](#) module because it taught me a lot of key functions that were helpful throughout the development of this program. In addition, the experience I gained from my research on libraries for project 2 led me to discover a lot of helpful ideas in terms of Python coding syntax and style. The unhelpful findings pertain mainly to my reach goal. The reach goal of this project was to utilize the [Tkinter](#) and [Budget](#) Python libraries to build a GUI for the user to input all of their income and expense information, so the user may have a budget generated for them within that interface. I faced a lot of roadblocks and simply put together a program that did not function well and would not crash. Trying to pursue a complicated task as such led to inefficiency, because I just wanted to develop a simple program to perform a basic calculation to allow the user to see where they can or do not need to cut down on their expenses overall. Overall, videos that I found online, as well as the general basic knowledge that I retained from this class allowed me to execute the simple program I developed.

Summary of Lessons *A summary of the lessons learned from working on the project.*

A couple of lessons that I learned from working on this project is as follows:

1. Always establish a safe and stretch goal for the project. This allows you to find a happy medium in between that can turn out to be a pretty cool and helpful program.
2. Don't put too much pressure on yourself. Sometimes you're so caught up in creating something really complicated and impressive, but when you take it back to the basics, you end up learning a lot more even if it didn't turn out the way you initially envisioned it. Always leave room for error and revision.
3. RESEARCH! I can not stress how helpful just a simple Google or YouTube search was for me in understanding concepts that I struggled with. Re-reading our class slides and digging deeper really helped me wrap my mind around how I was going to execute the final product.
4. Always take pride in your final outcome. Coding and programming is a learning experience and it comes easier for some than others. The best thing to do is keep an open mind to learn and retain as much as you can. Research and practice outside of the classroom can and will take you a far way.

Potential Changes *- If you could do it again, is there anything that you would either do differently or change about your project idea itself?*

The only thing that I would do differently is how I would build upon the project as it is. I am content with the way it came out for the purpose of this Final Assignment, because it performs the simple task that I intended for it to, and that is providing a level of self-accountability and better financial decision making to maximize the minimum income we college students are making. I intend on doing more research to develop this program into a GUI to make it even more user friendly beyond the reach of the computer savvy and interested. The overall storyline and goal of this project is to appeal to visual learners, like myself, in seeing how we can control our expenses to make sure we have enough for our basic necessities for survival, and additional expenses that are caused by COVID-19 [ie. purchase of a new computer to work from home]. We are all experiencing a tough go at it and I hope that my program can help someone even if in a small way, to make better decisions and positively impact their lives.