

201 Final Project Proposal - Katie Burgess, Andrew Rankins-Bell

We chose to do the combination project idea. For this project, we will be emulating a grocery store using Python and Java code, combined using a bash file. We will have three files total, one for each language mentioned. We are currently planning on having this program do tasks such as: say which product is the cheapest, tell you how much it would cost to buy a certain amount of a good, or possibly even tell you how much the prices differ between the most expensive and the cheapest good offered at the grocery store. The Python program will be creating a randomized data file, giving random good names as well as prices using the random library. We will be storing these good names inside of a list and using the randint function to access a random one. If there are duplicates, the program in Java will be able to name the cheaper one. The Java program will have a 2D list, storing the name of the good as well as its price. You will be able to enter a number to decide what you want to do with the groceries offered in the randomized grocery store. I think 100 randomized items with around 10 different goods to choose from in the randomization is a good starting point for our program, which we may expand upon if we have time. We will be putting the results in an output file through Java. Java is a compiled language, meaning that it is faster than Java, which is an interpreted language. This is why we are going to be creating the file in Python, which is higher-leveled than Java, giving it more ease of use. Java is faster, which is why it will be using the file Python creates and computing all the data for our project.

There is a need for a tool that is able to determine what goods prices are most affordable in this ever changing world of inflation. This tool has the ability to help families that are most in need of resources find themat prices that are sustainable. This tool could be combined with bargain hunting to positively impact lives.

Sources:

<https://kb.iu.edu/d/agsz>

<https://docs.python.org/3/library/random.html>

<https://theconversation.com/the-pandemic-has-made-it-even-harder-for-one-in-three-americans-to-obtain-healthy-affordable-food-169985>

<https://www.ers.usda.gov/data-products/food-price-outlook/summary-findings/>