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Subject: CSV Reader

Source:

[CSV Reader](#)



[Notes](#)

Assessment:

The CSV Reader is my original work. This assessment will be going over my process in creation and summarizing notes that I have taken. To begin I have left notes from learning the basics of Python through Jupyter Notebooks, this is not only where I took notes but where I made the bulk of the program. Learning about different variable types and how to program them such as strings, ints, floating points, all very similar to Java, C#, and C++ in language helped me greatly in evaluating the CSV files. In case the reader does not know what a CSV file is as I had not, it is a Comma Separated Values file. This kind of file is used specifically to store large amounts of information in a sorted, low storage method. As a test file I took a practice CSV from online called "Name, Age, Salary" I would know the program worked if it gave the: Count of items per category (EX. 5 ages, 5 salaries, not names as that is what it attached to the name), Mean of the numbers (EX. average age, average salary), Standard Deviation (How diverse is the list? Are the ages usually 5 years apart or 10?), The minimum number in the list for each category (EX. The youngest person on salary is 22), The maximum number in the list for each category (EX. The oldest person on salary is 34), and finally the First, Second, and Third Quartile of each category. While the information gathered will grow in possibility, and already is adaptable this is what the goal was.

In the process of creating the prototype program, I learned a large amount. Not only did I learn math concepts like how to program standard deviation in Python, I learned about how to code in Python in general, how to utilize Python's Data Science database through methods like `csv.reader()`, where the future of this project will lead me to, and various other forms of data collection, presentation, and overall knowledge in data science. Taking advantage of what Erick Castenada told me I keep detailed notes of my programming, the most prominent example left below the QR code of this research assessment.

While Jupyter was my source of notes, and programming PyCharm kicked in to help with the actual exportation of my program's prototype. Jupyter is not a compiler that can actually create big programs so copying the code I had from there I took it to PyCharm, exported it as a .py file and turned it into a downloadable EXE with a program I found on GitHub. Now to explain how the program works without the reader needing programming context, it goes through the cells of the comma separated values list taking note of each value in unique arrays. Each array is simply a list, so in layman terms the program starts by breaking the CSV into smaller lists each of a different category and capped under certain big categories like "names". After this is done it starts doing calculations with each category. If the category has numbers regardless of what they represent it will print out the values shown in the earlier paragraphs example through the same method as calculators with the exception of using Python methods that are built-in to help calculate if fed the values in the list. Then it goes through the master categories like "names" and uses it to average the values by dividing by the number of names in the list. After this is done a very basic visualization utilizing Python's tkinter pack (for GUI so it doesn't run the program in command prompt confusing users, as well as including a button to find CSV's to try out on the prototype for simplicity).

In conclusion through the creation of this prototype using resources like Udemy, Jupyter, PyCharm.Edu, GitHub, and following the advice of interviewees like Erick Castenada making sure to take careful notes along the way I gained valuable insight into not only the future of my program, but the future of my career whether it be in data science or in another field of programming. This has affirmed my love for the field as I love to learn about a wide range of topics and even the niche of data science allowed me to explore mathematical concepts like standard deviation, work with legal data learning how it should be interpreted, and other small details that help a programmer truly cater their code to a goal!