SIT112 - TASK COMPLETION REPORT

Important note 1: Please **do not** include Python code in this report. It would be acceptable though to make brief references to function names or different parts of the task's notebook when needed.

Important note 2: Please **do not** leave any response field empty; if not applicable, enter NA.

1. TASK SUMMARY

Pass Task P2	Lachlan Ballard S218399358	s218399358

2. TASK DESCRIPTION

What was the objective(s) of the task?	The objective of the task was to analyse data and manipulate data from the csv called 'Avocado.csv' The manipulation of data included the basics of importing a package (pandas) and then using an abbreviation for that package. It also included basic python scripting that did not include the use of the pandas (pd) package.
What kind of data did you work with?	The data we worked with was a CSV file with 14 columns and 18249 rows. The data was about avocados that included variety, year average price and volume to name a few. The data itself was a mix of int (float) and strings.
Briefly describe the data science task you worked on.	The task we worked on required us to do many different things. Some of these things was manipulating the DF table by using functions within the pandas package. As well as using basic python scripting to show averages (mean), minimum values, and standard deviation of values over time and regions. Other things included was creating a plot bar and also finding unique values of certain columns

3. TECHNICAL SKILLS

What technical skills did you use	Technical skills required for this task would be the memory

during the task?	and knoweldge of the language we are using (python). As well as being able to independantly research functions that you might not be aware of. More skills also include troubleshooting with errors and working with syntax of functions you might not have used prior.
list any challenges or obstacles you faced while working on the task and how you overcame them.	Challenges that I faced might be errors that I came across. Some errors I had never troubleshooted before so I didn't initally know how to fix them. One good thing about Python errors is they are quite informative and can usually lead you directly to the PROBLEM however that does not indicate one might be able to fix it. Using my independent skills I was able to traverse these erros by troubleshooting with other errors users have had and also using man pages for pandas and python itself.
	Other challenges was the syntax for some of the functions. Sometimes the placement of the [[]] seemed to throw me and could get easily confiused. However with more time and practice I was able to understand placement. This also included other syntax specifics like ([]).

4. DATA CLEANING AND PREPARATION (ENTER NA WHEN NOT APPLICABLE)

What steps did you take to clean and prepare the data?	There wasn't really a chance to 'Clean the data'. However in retrospect if I wanted to clean or help myself out I could have standardised the column names. E.G. some columns include a space 'Total Volume' where as some don't 'AveragePrice'. However there were no NaN values or values that would cause error's when trying to combine colums or sum of 2 columns. All data types were already correct and none providing any errors
Did you encounter any issues with the data during this process? How did you address these issues with the data?	I encountered no issues with data in this task

5. DATA ANALYSIS (ENTER NA WHEN NOT APPLICABLE)

How did you analyze the data?	To analyse the data I used pandas. I used pandas with different functions such as nunique(). This coupled with built in python commands that allow us to query a dataframe without calling a package. Other than this we also useda plot bar chart to visualise the data.
Did you use any visualization techniques to better understand the data?	Yes we used a bar plot chart to visualise the standard deviation, mean and median of the total volume of avocado's.
What insights did you gain from this analysis?	From the analysis we were able to see that the mean amount of total volume of avocados over the years in the data stayed relatively similar as well as the median. However we do see a larger increase in standard deviation over the years. We are also able to see that across all 3 values a increase in value indicating an upward trend in Total Volume

6. BASIC REQUIREMENTS FOR THE TASK

Are you confident to execute the Python code in this task and explain the output?	Yes
Are you confident to explain what each line of code does and how it contributes to the solution(s)?	Yes
Are you confident to rewrite or modify the code after completing this task? • For pass tasks: with guidance, no time limit. • For credit tasks: with limited guidance, no time limit. • For distinction tasks: independently, no time limit. • For high distinction tasks: independently, in a limited time.	Yes

7. CODE ATTACHMENT (NOT APPLICABLE TO THE PASS TASKS – ENETER NA)

Have you attached the notebook file that contains your solutions (Python code) for this task?	NA

Have you executed all the cells in your attached notebook and ensured there is no error? *Please note your submission <mark>will not be flagged as complete</mark> if your attached notebook contains any error.*	NA

Provide the link to the video recording that presents your completed task. This is only for Distinction and High Distinction tasks. Enter NA for Pass/Credit tasks.	NA

9. AKNOWLEDGEMENT

BY SUBMITTING THIS REPORT, I ACKNOWLEDGE THAT:

- MY RESPONSES ARE ACCURATE AND ARE MY OWN WORDS.
- I HAVE MET ALL THE BASIC REQUIREMENTS OF THE TASK (LISTED IN SECTION 6).
- I HAVE READ AND FULLY UNDERSTOOD THE ASSESSMENT GUIDELINE OF THE UNIT.
- THIS REPORT DOES NOT EXCEED 3 PAGES.
- THIS REPORT DOES NOT INCLUDE CODE EXCEPT BRIEF REFERENCES TO FUNCTION NAMES OR DIFFERENT PARTS OF THE TASK'S NOTEBOOK.
- MY SUBMISSION DOES NOT CONTAIN ANY CREDENTIALS (E.G., PASSWORD, API KEY, ETC) OR PERSONAL INFORMAIOTN.

IMPORTANT NOTE 3: IF YOU HAVE ANSWERED NO TO ANY OF THE QUESTIONS IN SECTIONS 6, PLEASE RECONSIDER SUBMITTING YOUR REPORT; ASK HELP FROM YOUR TUTOR.

ADD YOUR NAME AND SIGNATURE HERE: LACHLAN BALLARD *Lachlan Ballard*