| Creating and Accessing Pandas DataFrames | | | | | | | | |
|---|-------------------------------|--|--|--|--|--|--|--|
| Course Code: CPE 031 | Program: Computer Engineering | | | | | | | |
| Course Title: Visualization and Data Analysis | Date Performed: 10-08-2024 | | | | | | | |
| Section: CpE21 S4 | Date Submitted: 10-08-2024 | | | | | | | |
| Name: BONIFACIO, NYKO ADREIN L. | Instructor: Prof. Sayo | | | | | | | |

Intended Learning Outcomes (ILO):

By the end of this laboratory session, learners will be able to

 Construct and manipulate Pandas DataFrames from various data structures (such as lists, dictionaries, and NumPy arrays) while demonstrating an understanding of DataFrame attributes and methods. This includes loading the dataset, creating DataFrames with appropriate column labels and accessing data from rows and columns.

Instructions:

- Loading your dataset: Refer back to your chosen dataset from the PRELIM period.
 Whether you downloaded it or stored it in your Google Drive, you are required to load
 it into the <u>Google Colab</u>. Watch this <u>video</u> to learn more about how to read CSV files in
 Google Colab.(Take a screenshot to document successful execution.)
- 2. Creating a dataframe from your CSV file: Once you have successfully loaded your dataset, you need to create a dataframe from your uploaded CSV file.(Take a screenshot to document successful execution.)
- 3. Creating a dataframe from a dictionary of lists: Manually create a dictionary where each value is composed of a list from your original dataset, then load it into a dataframe, before printing it. You are required to provide at least five (5) observations in your list. (Take a screenshot to document successful execution.)
- 4. Creating a dataframe from a list of dictionaries: Manually create a list of dictionaries from your original dataset, then pass it into a dataframe, before printing it. You are required to provide at least five (5) observations in your list. (Take a screenshot to document successful execution.)
- 5. Selecting dataframe columns: Execute a method that would allow you to select a single and multiple dataframe columns. (Take a screenshot to document successful execution.)
- **6. Selecting dataframe rows:**Execute a method that would allow you to select a single and multiple dataframe rows using panda indexing and python indexing.

Output:

1.

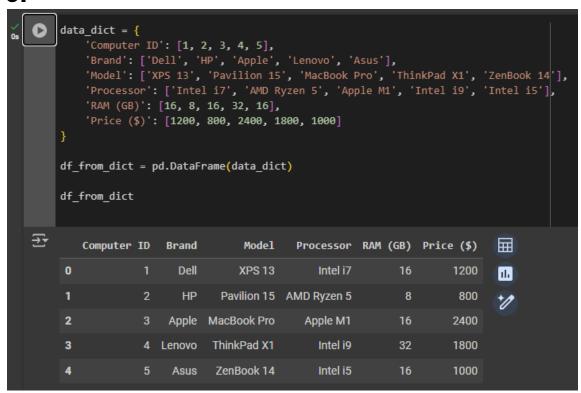
```
[20] import pandas as pd

path = "/content/ComputerData.csv"
df = pd.read_csv(path)
```

2.

| v Os | 0 | df.hea | ad() | | | | | | | | |
|---------|----------------|--------|-----------|--------|-------------|-------------|----------|--------------|------------------|------------|-----|
| | ∑ * | Co | mputer II | Brand | Model | Processor | RAM (GB) | Storage (GB) | Graphics Card | Price (\$) | |
| | | 0 | 1 | Dell | XPS 13 | Intel i7 | 16 | 512 | Intel Iris Xe | 1200 | 11. |
| | | 1 | 2 | . HP | Pavilion 15 | AMD Ryzen 5 | 8 | 256 | AMD Radeon | 800 | |
| | | 2 | | Apple | MacBook Pro | Apple M1 | 16 | 1024 | Apple Integrated | 2400 | |
| | | 3 | 4 | Lenovo | ThinkPad X1 | Intel i9 | 32 | 512 | NVIDIA GTX 1650 | 1800 | |
| | | 4 | 5 | Asus | ZenBook 14 | Intel i5 | 16 | 512 | NVIDIA MX250 | 1000 | |
| | | | | | | | | | | | |

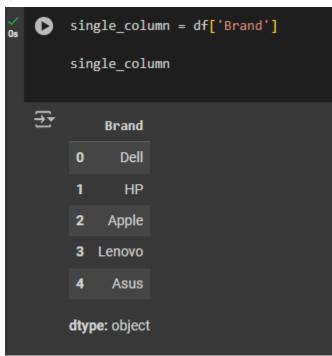
3.

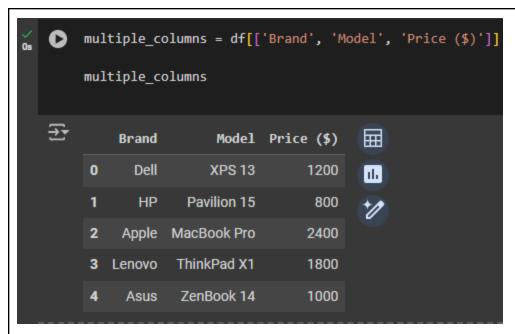


4.

```
data_list = [
                 a_list = [
{'Computer ID': 1, 'Brand': 'Dell', 'Model': 'XPS 13', 'Price ($)': 1200},
{'Computer ID': 2, 'Brand': 'HP', 'Model': 'Pavilion 15', 'Price ($)': 800},
{'Computer ID': 3, 'Brand': 'Apple', 'Model': 'MacBook Pro', 'Price ($)': 2400},
{'Computer ID': 4, 'Brand': 'Lenovo', 'Model': 'ThinkPad X1', 'Price ($)': 1800},
{'Computer ID': 5, 'Brand': 'Asus', 'Model': 'ZenBook 14', 'Price ($)': 1000}
         df_from_list = pd.DataFrame(data_list)
         df_from_list
₹
                                                               Model Price ($)
                 Computer ID Brand
                                            Dell
                                                                     XPS 13
                                                                                                              Ш
                                                              Pavilion 15
                                                                                                              1
                                            Apple
                                                          MacBook Pro
                                                                                               2400
           3
                                     4 Lenovo
                                                            ThinkPad X1
                                                                                               1800
                                                             ZenBook 14
                                               Asus
                                                                                               1000
```

5.





6.

