

Module 2: Colab Assignment

Become familiar using a Colab notebook

Problem 1: (20 pts)

Import `numpy` as `np` and `pandas` as `pd`

```
1 import pandas as pd
2 import numpy as np
3
```

Problem 2: (40 pts)

Create a simple DataFrame as follows:

1. Create a 5x3 NumPy array
2. Create a Python list that contains the column names (three columns in total)
3. Create a DataFrame
4. Print the DataFrame

```
1 #Step 1
2 dfarray = np.array([
3     [1, 2, 3],
4     [4, 5, 6],
5     [7, 8, 9],
6     [11, 12, 13],
7     [14, 15, 16]
8 ])
```

```
1 #Step 2
2 columns = ['Column1', 'Column2', 'Column3']
```

```
1 #Step 3
2 df = pd.DataFrame(dfarray, columns=columns)
```

```
1 #Step 4
2 print(df)
```

	Column1	Column2	Column3
0	1	2	3
1	4	5	6
2	7	8	9
3	11	12	13
4	14	15	16

Problem 3: (20 pts)

1. Write a function to convert seconds into minutes (output should be an integer number).
2. Provide an example using this function and show on the screen the `input` and `output`. For example:

Input: Seconds = 125

Output: Minutes = 2

```
1 #Step 1
2 def sec_to_mins(seconds):
3     minutes = seconds // 60
4     return minutes
```

```
1 #Step 2
2 seconds = 125
3 minutes = sec_to_mins(seconds)
```

```
1 print("Input: Seconds =", seconds)
2 print("Output: Minutes =", minutes)
```

```
Input: Seconds = 125
Output: Minutes = 2
```

Problem 4: (20 pts)

Load the CSV data file as follows:

1. Find the data file on Canvas.

Go to **Files** -> **Data Files** -> **SOCR-HeightWeight.csv**

2. Upload the CSV file in Colab

3. Load the CSV file into a DataFrame named **df**

4. Print the DataFrame **df**

```
1 #Step 3: To run this you need to do step 1 & 2 first.
2 df = pd.read_csv("/content/SOCR-HeightWeight.csv")
```

```
1 #Step 4
2 print(df)
```

	Index	Height(Inches)	Weight(Pounds)
0	1	65.78331	112.9925
1	2	71.51521	136.4873
2	3	69.39874	153.0269
3	4	68.21660	142.3354
4	5	67.78781	144.2971
...
24995	24996	69.50215	118.0312
24996	24997	64.54826	120.1932
24997	24998	64.69855	118.2655
24998	24999	67.52918	132.2682
24999	25000	68.87761	124.8742

[25000 rows x 3 columns]