San José State University
Department of Applied Data Science

DATA 200
Computational Programming
for Analytics

Section 21
Spring 2023
Instructor: Ron Mak

Assignment #1

Assigned: Wednesday, February 1
Due: Wednesday, February 8 at 5:30 pm
           100 points max

Initial program

The purpose of this assignment is to make sure that you have properly installed the software required to run a standalone Python program and a Jupyter notebook. You will write a simple program and create a notebook version.

Write a Python program

Write a standalone Python program `Assignment1.py` that does the following:

1. Print <u>your</u> full name (first and last names) with a box around it, like so:

    ```
    +---------+
    | Ron Mak |
    +---------+
    ```

2. Prompt the user for five integer values, one at a time.
3. Compute and print the minimum, maximum, range, total, and average of the values. Print the range (minimum to maximum values, inclusive) like this, assuming the minimum is 12 and the maximum is 73:

    ```
    The range is 12 to 73
    ```

TIP: Initialize a variable named `total` by setting its value to 0. Then each time you get a new value from the user (assume you stored the value in a variable named `n`), execute

```
total = total + n
```

to add the value of `n` to the current value of `total`. After you've gotten the fifth value, `total` will have the sum of all five values.

Create a Jupyter notebook

Convert your Python program to a Jupyter notebook **Assignment1.ipynb**. Break the program into multiple cells. Save the notebook after you've executed all the cells which will then include all the output cells.

TIP: Execute the program manually cell by cell rather than using the **Run All** option. Otherwise, you may have input problems. After inputting an integer value in response to a prompt, be sure to press return. Then click on the next cell and continue.

What to submit

1. Your Python program.
2. A screenshot or a copy-and-paste text file from running the program in a terminal window.
3. Your Jupyter notebook.

Rubric

Criteria	Max points

• **Standalone Python program `Assignment1.py`**
  ○ Print your name in a box.
  ○ Prompt the user for five integer values.
  ○ Calculate and print the minimum, maximum, range, sum, and average.
	• **50**
	  ○ 10
	  ○ 20
	  ○ 20

• **Jupyter notebook `Assignment1.ipynb` including the output cells**
  ○ Print your name in a box.
  ○ Prompt the user for five integer values.
  ○ Calculate and print the minimum, maximum, range, sum, and average.
	• **50**
	  ○ 10
	  ○ 20
	  ○ 20