# Python for Informatics

# Assignment 1

# "Mean"

***As you complete this assignment, please do not use single character variable names. Instead, use meaningful names (names that tell the reader what is represented and why). For example, the name "mean" or "mean_avg" is meaningful, "m" is not.***

## Background:

As specified in the course syllabus, please download and install the "code3" code folder (directory) onto your system. To install the folder, you merely extract the zip folder to a folder (directory) on your local file system. Additionally, you'll need to install the *Anaconda* data science platform onto your system.

This assignment requires that you create, build, and run a Jupyter notebook. Jupyter notebooks are not created or run within an IPython IDE such as the *Spyder* application. Instead, Jupyter notebooks are run within your default web browser application. To create notebook files you need to use *JupyterLab* or *Jupyter Notebook*. I recommend that you use *JupyterLab*. Please see the "Getting_Started_with Assignment_1_Using_JupyterLab.docx" file located in the Lesson 1 Canvas module.

The Anaconda *Spyder* application may allow you to save your work as an .ipynb file, but it will put your code into a single Jupyter cell, ***which is not what you want to do***.

When you create your Jupyter notebook file, it will launch your default web browser (if not already launched), and your notebook will be displayed within one of your web browser's tabs. You do your work, execute your commands, and save your notebook file within your browser. Some students get confused because nothing seems to happen with they create the notebook from their IPython IDE (e.g., Spyder)—you need to switch to your browser app to be able to find your newly created Jupyter notebook. It is highly recommended that you set either Chrome or Firefox to be your default browser. The Windows Internet Explorer (IE) and Edge browsers are not reliable browsers for working with the Jupyter platform. If you are using an OSX system, Safari seems to work okay. However, if you run into problems, please consider setting Chrome to be your default browser. Also,

if you are running OSX, Anaconda Navigator will be installed in your Applications folder, just like all other applications.

For further guidance regarding Jupyter notebooks, please go to the following URL:

https://jupyter.org/

**Important clarification:** Assignment 1 is the only assignment that uses an .ipynb file. This first assignment serves as an introduction to the Jupyter platform. Jupyter is an exciting new development in the field of Computer Science, and it's important that you are aware of it as a resource. However, ***you won't be submitting any additional .ipynb based assignments in this course***

## Description:

Note: In the Modules section of our course shell, there are two resources, "Getting_Started_with_Assignment_1_Using_JupyterLab.docx" and "Assignment_Example.ipynb", that offer a supportive context for you to complete this first assignment.

Create an IPython Jupyter Notebook file that performs the following:

1. Provide two or more headers, using the *Markdown* cell mode with leading '#'s at the beginning of your text, specifying the assignment title and your name. Note that the '#'s must be immediately followed by a space in order for them to render properly as headers. By executing a *Markdown* cell, the specified text becomes a comment header within your Jupyter notebook. You will be executing at least two Markdown cells to provide your assignment title and your name as text headers.
2. Prompt the user (i.e., use the ***input(…)*** function), and receive input from the user for five floating point numeric values. ***You must use five cells to accomplish this.*** Note that section ***2.10 Asking the user for input*** demonstrates how to use the ***input(…)*** function. It also explains how the value returned is of type ***string***, and how to convert that value to an object of a different type by using a conversion function such as ***int(…)*** or ***float(…)***.
3. Using the five floating point numeric values that were entered by the user, calculate and present (i.e., use the *print(…)* function) the floating point mean value to the user. Since we haven't covered Python ***list***s yet, you are not allowed to use one. Similarly, you are not allowed to use the ***statistics*** module for this assignment.

## Clarification and a good tip:

Input validation is not required for this assignment, or any future assignment, unless the assignment description explicitly states that input validation is a requirement. Sometimes the kernel may get into a strange state, or your cells might misbehave because they were executed out of order. By restarting the kernel, you are assured that the Python kernel and your Notebook will execute with an entirely blank, initial state. That often clears up many problems. To restart the kernel, select the menu "Kernel" and select the menu item "Restart Kernel…".

## Deliverable:

One IPython Jupyter Notebook file (with an .ipynb extension), submitted as an attachment at our course shell assignment page.

## Submission Deadline:

Please see the course schedule in our syllabus for all assignment submission deadlines.