

CSS01: Data Analysis in Python

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January 8th, 2020
Class 01

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Reminder:

- iClickers can be registered on Canvas, but we'll start using next week

- All in-class code and lecture slides can be found on GitHub

https://github.com/JohnSerences/CSS01_W2020

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Key concepts for today

- Variable: symbolic name that refers to an **object** (or to a chunk of data)
 - Objects can be a letter string, number, list of letter strings or numbers, etc
 - Many specialized types of object: **str**, **int**, **float**, **list**, dictionary, etc.
 - The data is contained within the object
 - A **variable** is a useful (i.e. readable/memorable) label for an object

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Key concepts for today

- Different objects can be used for different purposes
 - If you want to store a name or a human-readable label for data, use a string
 - If you are dealing with numbers, use an int or a float
 - If you are dealing with a bunch of strings or numbers, use a list (array)
- Different objects take up different amounts of memory
 - Example – it takes less memory to represent a whole number (e.g. 3) than it does to represent a long “floating point” decimal number (e.g. 3.141592653589793)

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Key concepts for today

- Method: a function that is available for a given type of object (or available to the variable that refers to the object)
 - You can use methods to manipulate the data that are assigned to a variable
 - Example: if you have a list of words, the `sort()` method will re-arrange the list in alphabetical order
 - Object oriented programming!
 - More formally: a method is a function that is the member of a class (this won't make sense now, but it will by week 7 or so)

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Some shortcut keys (to start with)

- On a PC `cntrl` = control key, on Mac `cntrl` = “apple” command key
 - New cell above: `cntrl+M A`
 - New cell below: `cntrl+M B`
 - Convert to code cell: `cntrl+M Y`
 - Convert to text cell: `cntrl+M M`
- Run a cell (execute code or display markdown): `cntrl+ENTER`

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