Take a seat!
We'll start at
7:05pm <3

DATA FOR DUMMIES®

+ Build Intro to Python + Data

DATA SCIENCE COLLABORATIVE

What is Python?

```
print("Hello World")
```

Commands

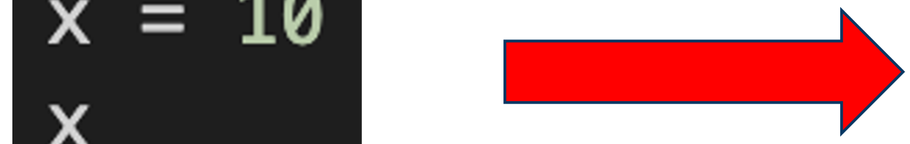
```
Hello World
```

Outcome

Basic Functionalities

Set Variables

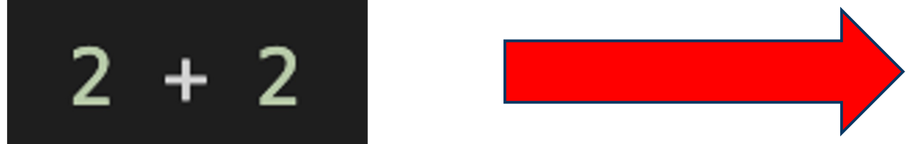
```
x = 10
x
```



```
10
```

Do Basic Math

```
2 + 2
```

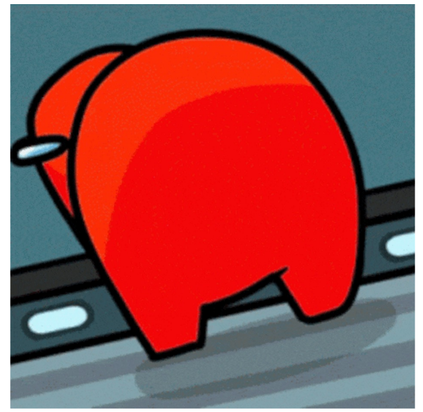


```
4
```

What is Data?

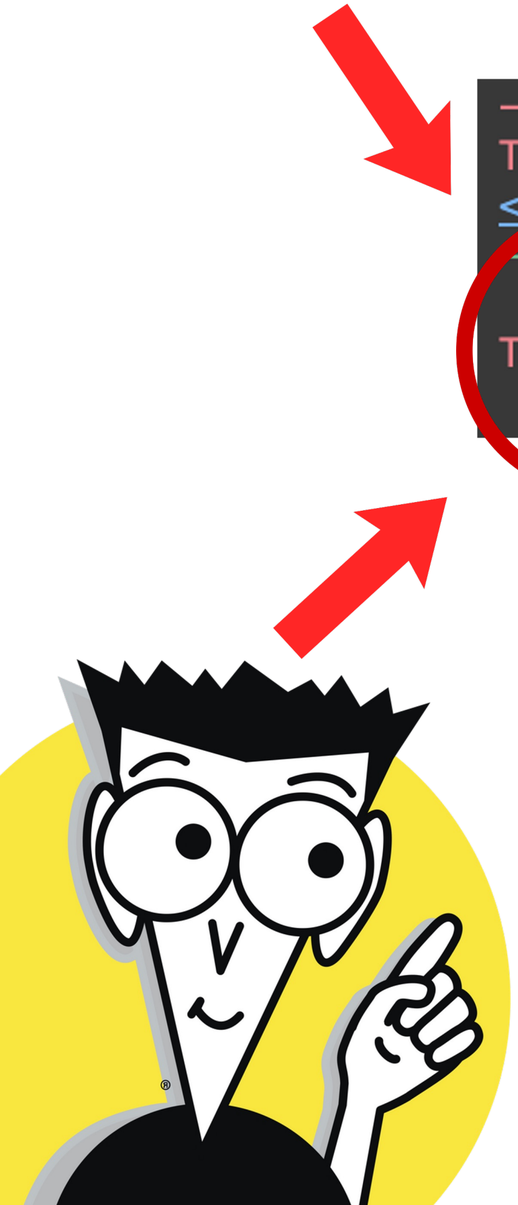
Data is everything!

It can take the form of surveys, a bunch of numbers, etc.



BUT... we have to differentiate TYPES of data

For example: We could do 2 + “Hello” in Python... let’s try it 😈



```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-1-45c169148032> in <cell line: 1>()
----> 1 1 + "Hello"

TypeError: unsupported operand type(s) for +: 'int' and 'str'
```

!?

Data Types

Type	Name in Python	Description	Examples
Integers	‘int’	Whole numbers	-1, 0, 1, 2, 3...
Floats	‘float’	Decimals	2.5, 6.125, 1.0
Strings	‘str’	Letters, words, and sentences (or anything surrounded by quotes)	“A”, “Hello!”, “12345”
Booleans	‘bool’	True/False	True, False
Lists	‘list’	Collections of items surrounded by brackets [ ]	[1, 2, 3] [“Hi”, 1.5] [[1, 2, 3], “HI”]
Dictionaries	‘dict’	Collections of items assigned to labels, called “keys”	{“Colors”: [“red”, “blue”], “Numbers: [1,2,3]”}

Data Types

Lists (‘list’):

Collections of items surrounded by brackets [ ]

```
my_list = [1, "Hello", 2.125]
```

Dictionaries (‘dict’):

Collections of items assigned to labels, called “keys”. Surrounded by curly brackets { }

```
my_dict = {
    'colors': ['red', 'blue', 'green'],
    'numbers': [1, 2, 3],
    'favorite food': 'pizza'
}
```

Indexing

Indexing means to retrieve an element from a collection (such as lists or dictionaries)

Indexing from a **List**:

```
my_list = [1, "Hello", 2.125]
```

```
my_list[0]
```

```
1
```

(we start from 0!)

```
my_list[2]
```

```
2.125
```

Indexing

Indexing means to retrieve an element from a collection (such as lists or dictionaries)

Indexing from a **Dictionary**:

```
my_dict = {
    'colors': ['red', 'blue', 'green'],
    'numbers': [1, 2, 3],
    'favorite food': 'pizza'
}
```

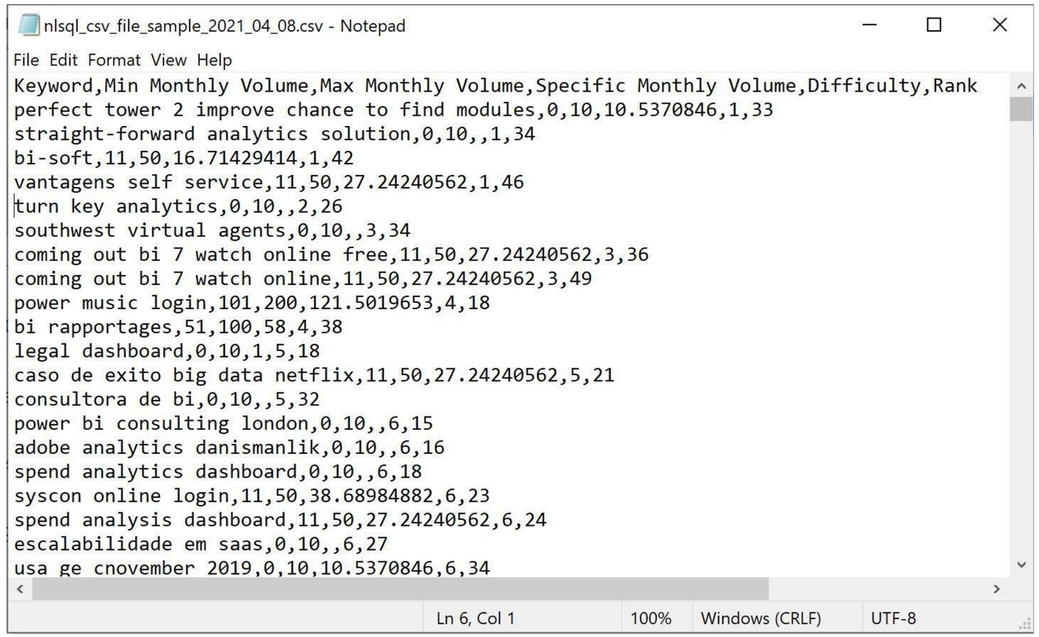
```
my_dict['colors']
```

```
['red', 'blue', 'green']
```

```
my_dict['colors'][0]
```

```
'red'
```

Importing Data Into Python

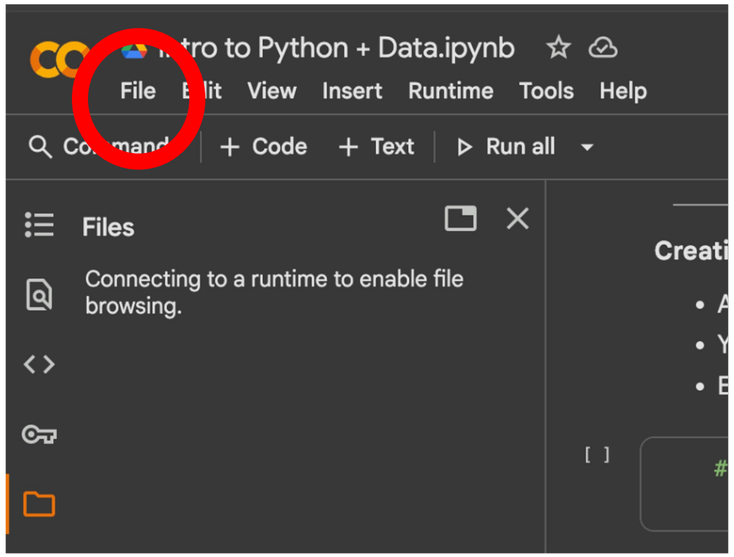
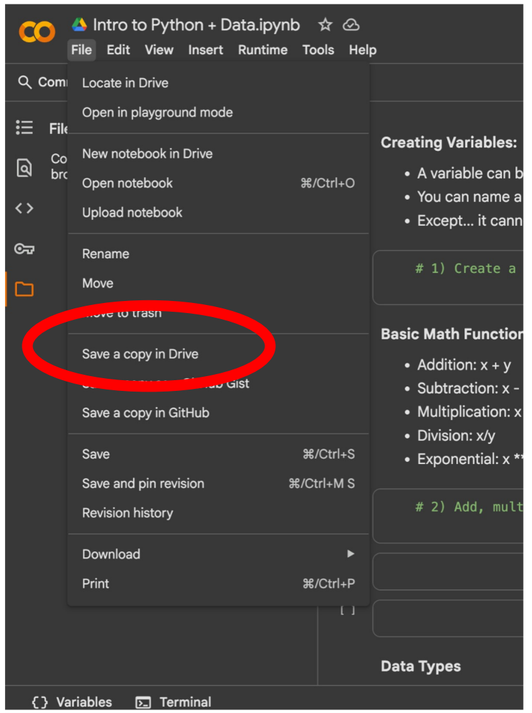


Author	User Rating	Reviews	Price	Year	Genre
JJ Smith	4.7	17350	8	2016	Non Fiction
Stephen King	4.6	2052	22	2011	Fiction
Jordan B. Peterson	4.7	18979	15	2018	Non Fiction
George Orwell	4.7	21424	6	2017	Fiction
National Geographic Kids	4.8	7665	12	2019	Non Fiction
George R. R. Martin	4.4	12643	11	2011	Fiction
George R. R. Martin	4.7	19735	30	2014	Fiction
Amor Towles	4.7	19699	15	2017	Fiction
James Comey	4.7	5983	3	2018	Non Fiction
Fredrik Backman	4.6	23848	8	2016	Fiction
Fredrik Backman	4.6	23848	8	2017	Fiction
Larry Schweikart	4.6	460	2	2010	Non Fiction

.csv file: a text file that can store data using “comma separated values”

This is only one of the ways that you might see data, but is very common for beginner projects

Your Turn!

Worksheet: http://bit.ly/48F4Tsv

Dataset: http://bit.ly/3WsRUT5