**Welcome to Python 3!**

**Presented by:**

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**Content and Solutions:** [**https://cutt.ly/python-3**](https://cutt.ly/python-3)

**Key Functions: Python 1**

|  |  |
| --- | --- |
| type() | Evaluating primitive types in python |
| = | Declaring variables and variable declaration conventions |
| (+ , - , \* , /,%) | Math Operators and string concatenation |
| IF or WHILE statements | Must have conditional operators (==, >, >=, break) |
| input() | Receive input from the user. Input will be stored as a string. |
| split() | Splits a string along a given character and returns a list of the substrings |
| title() | Capitalizes the first letter of a string |
| upper() | Capitalizes all the letters of a string |
| lower() | Puts all the letters in a string into lowercase |
| [] | Used to declare a list |
| append() | Add a value to the end of a list |
| insert() | Add a value to a specified index within a list |
| del | Delete value at the index / key of a list or dictionary |
| pop() | Remove and return the last value of a list |
| len() | Return the length of the provided string, list, dictionary, etc. |
| sort() | Sort the values of a list. Prioritizes numeric values, then strings |
| { } | Used to declare a dictionary and [] is used to access values in a dictionary |
| keys() | Return the keys of a dictionary |
| values() | Return the values of a dictionary |
| def, return | Used to declare, and return values from custom functions (note: only one return statement can be executed at run time) |
| for, in | Used to create ‘for’ loops and define parameters |
| class(), \_\_init\_\_() | Object oriented programming functions. \_\_init\_\_() is used to prefill attributes |

**Key Functions: Python 2**

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| --- | --- |
| super() | Allow access to parent class methods from child class |
| read\_csv(file\_name) | Import csv file as a pandas DataFrame |
| head() | Display the first 5 rows of a DataFrame |
| tail() | Display the last 5 rows of a DataFrame |
| shape | Return the dimensions of the DataFrame |
| columns() | Return the columns of the DataFrame as a list |
| drop(column\_name) | Remove a column from the DataFrame |
| max(), median(), min() | Return max/median/min of Series |
| value\_counts() | Returns all values in a Series as well as their frequency |
| sort\_values() | Arrange rows of DataFrame based on values of a specified column, in ascending or descending order |
| to\_csv() | Export DataFrame in current state to csv file |

**Key Functions: Python 3**

|  |  |
| --- | --- |
| groupby() | Split a DataFrame, apply a function, and recombine the result |
| merge() | Merge two DataFrames along common columns. Will merge and map rows where the values in both DataFrames are equal |
| load\_iris() | Load the iris Dataset from the sklearn datasets module |
| DataFrame() | Create a Pandas DataFrame. Must be passed a dictionary for the data, and a list of column names |
| display() | Similar to print(), outputs whatever is provided as a more structured output |
| describe() | Calculate and display basic statistical metrics of a DataFrame such as count, mean, std, min, etc. |
| plot() | Plotting method for Pandas DataFrames. Must be given the type of plot and layout parameters |
| hist(), scatter\_matrix() | Additional plotting methods to create Histograms and scatter matrices of a Pandas DataFrame |
| train\_test\_split () | Divides feature and target data into training and test sets |
| fit() | Fit a predictive model to training feature data and their associated labels |
| predict() | Return a label value given an unseen data point |