

Summary

Pandas is a python library that is widely used in ML and data science/analysis for the data structures and functions/methods they provide.

Dataframes:

A dataframe is a two-dimensional data structure made up of rows and columns. They consist of a dictionary of lists. What makes them so useful is that they have a lot of methods that help in data manipulation or selection, CRUD operations. A dataframe column is a *series* object.

Series 1			Series 2			Series 3			DataFrame			
Mango			Apple			Banana			Mango	Apple	Banana	
0	4		0	5		0	2		0	4	5	2
1	5		1	4		1	3		1	5	4	3
2	6	+	2	3	+	2	5	=	2	6	3	5
3	3		3	0		3	2		3	3	0	2
4	1		4	2		4	7		4	1	2	7

Series:

A series object is a one-dimensional data structure that has a lot of methods, similar to a dataframe, and can only store variables of one dtype.

Popular Methods:

Methods of a dataframe **don't** change the original dataframe by default. Some methods have a keyword argument of inplace set to false, to change the original dataframe that keyword argument must be set to true. If a method does not have the keyword argument of inplace, an assignment operator "=" is used instead to change the dataframe. Some of the popular methods could be found there https://pandas.pydata.org/Pandas_Cheat_Sheet.pdf. Slicing a dataframe has the endpoints inclusive ... df[:2] will return all values up to 2 (inclusive), unlike slicing of lists or other data structures.