* DataFrame :→

A Dataframe is a two-dimensional (2-D) array / data-structure which

- > stores heterogenous data i.e. can store int, float, string simultaneously.
- > in the form of rows and columns say in Tabular form.
- > size mutable i.e. rows / columns can be added or removed.
- > data mutable i.e. values in rows and columns can be changed.

Example

	Name	Class	Age
0	Ajay	9th	15
1	Aman	12th	18
2	Gautam	6th	13
3	Harish	10th	16
4	Pawan	11th	17

Column Labels / Indices

Row Index / Labels

NOTE :→ "D" and "F" of keywords DataFrame must be capitalized.

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DataFrame

- Creating Dataframe in different ways :→

(i) From dictionary of series :→

Creating a dataframe using dictionary of series is easy.

- First, we create series inside a dictionary with column index as "key" and "Value" is made Series.
- Then dictionary is traversed into DataFrame function.

Example :

```
import pandas as pd                                  ← import
dict = {"Name": pd.Series(['Ajay','Aman','Raj']),
        "Class": pd.Series(["10th","11th","12th"]),
        "Age": pd.Series([15,16,17])
        }                                            ← dictionary

df = pd.DataFrame(dict)  → traversing

print(df)  → printing.
```

Output :

	Name	Class	Age
0	Ajay	10th	15
1	Aman	11th	16
2	Raj	12th	17

Important!!

(ii) From List of Dictionaries :→

While creating Dataframe from List of Dictionaries,

- Key values of dictionary becomes column index.
- Values / data of dictionary becomes corresponding entry.
- Unavailable data values in one dictionary is marked 'NaN' due to presence in one.
- Total no. of rows in the dictionary is equal to total number of dictionaries in the list.
- Total no. of columns in dictionary is equal to the maximum number of keys in any dictionary.

Example :→

```
import pandas as pd
listdict = [{'a': 10, 'b': 6}, {'a': 13, 'b': 18,
            'c': 21}]
df = pd.DataFrame(listdict)
print(df)
```

Output:→

	a	b	c
0	10	6	NaN
1	13	18	21

* Not Included in Syllabus

- From Dictionary of Lists
- From Dictionary of Numpy Arrays