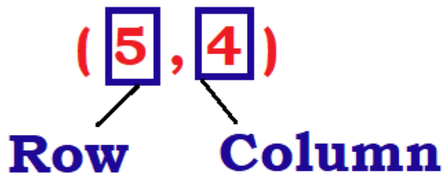
Data Frames'

A Data Frame is a " Two Dimensional Data Structure " in which we store data in form of Tables i.e in View of [Rows X Columns]



Features of DataFrames

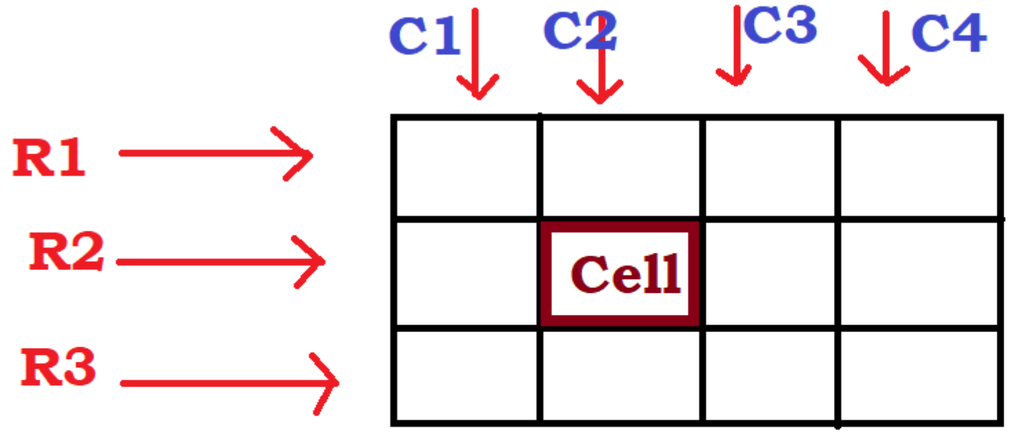
Potentially Columns of Different Data Types
Size is Mutable
Its Contains only Labelled Data Axeses (R , C)
We can Perform Arithmetic Operations

" We can Create a Table via Data Frame that is known as Data Set "

What is Data Set ?

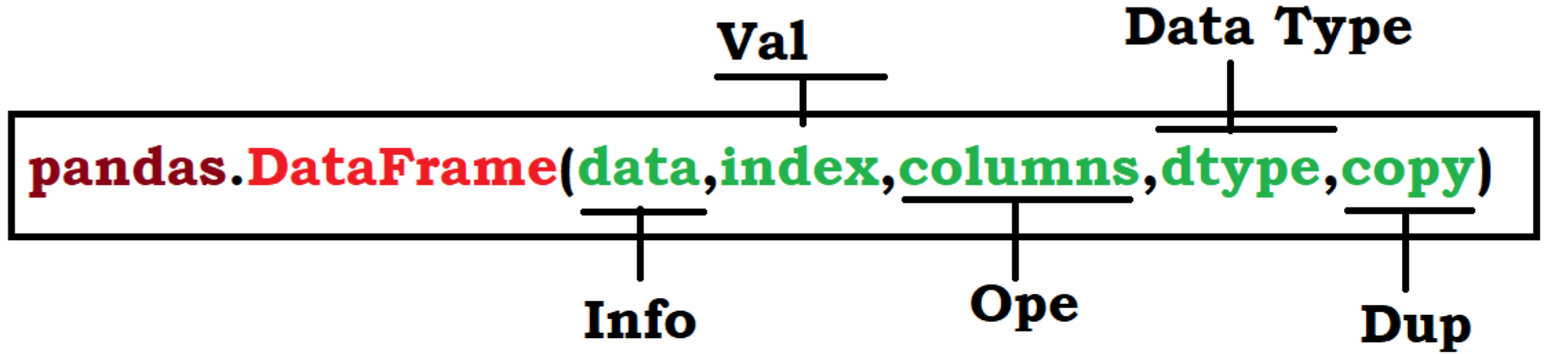
A DataSet is another name of Table , In which we store Data in form of Rows & Columns , The Data is Mutable , Updatable . The Data Set Size is Negotiable.

Structure of DataFrame / DataSet



1. Rows
2. Columns
3. Cells

Syntax of Data Frame



Create a Empty Data Set

```
import pandas as pd
a=pd.DataFrame()
print(a)
```

```
Empty DataFrame
Columns: [ ]
Index: [ ]
```

Row

We can Create a DataFrame using Below

1. List
2. dict
3. Series
4. General Way

Create a DataFrame Using List

```
import pandas as pd
a=[10,20,30,40,50]
b=pd.DataFrame(a)
print(b)
```

```
    0
0  10
1  20
2  30
3  40
4  50
```

Create a DataFrame Using Dictionary

```
import pandas as pd
a=[{'a':1,'b':2.5,'c':3,'d':4}]
b=pd.DataFrame(a)
print(b)
```

```
   a    b  c  d
0  1  2.5  3  4
```

Creata a DataFrame Using Series

```
import pandas as pd
a=[10,20,30,40,50,60]
c=pd.Series(a)
b=pd.DataFrame(c)
print(b)
```

```
    0
0  10
1  20
2  30
3  40
4  50
5  60
```

Create a DataSet by using General Way

```
import pandas as pd
ds={'S.No':pd.Series([1,2,3,4,5]),
    'Roll No':pd.Series([1001,1002,1003,1004,1005]),
    'Name':pd.Series(['Chandu','Ram','Lakshman','Kumar','Kishor']),
    'SUb1':pd.Series([10,20,30,45,50]),
    'Sub2':pd.Series([50,20,70,80,50])}
df=pd.DataFrame(ds)
print(df)
```

	S.No	Roll No	Name	SUb1	Sub2
0	1	1001	Chandu	10	50
1	2	1002	Ram	20	20
2	3	1003	Lakshman	30	70
3	4	1004	Kumar	45	80
4	5	1005	Kishor	50	50