```
pip install numpy
```

```
Requirement already satisfied: numpy in /usr/local/lib/python3.10/dist-packages (1.25.2)
```

```
import pandas as pd
pd.__version__
```

```
'2.0.3'
```

```
#1)pandas series-1dimensional labeled array which can be able to stored any type of data
#note:-it does not have column
marks=[0,6,8,9,10,12,16,3,44,20]

first_series=pd.Series(marks)

first_series
#in series only we print no.of rows,there is no columns
```

```
0     0
1     6
2     8
3     9
4    10
5    12
6    16
7     3
8    44
9    20
dtype: int64
```

```
#accessing element through label(here label nothing but index)
acces=first_series[4]#index 4 have element 10 value
acces
```

```
10
```

```
#if we want to change the label
wages=[200,500,1000,1500]
updated_series=pd.Series(wages,index=['a','b','c','d'])
updated_series
```

```
a     200
b     500
c    1000
d    1500
dtype: int64
```

```
updated_series['d']
```

```
1500
```

```
#dataframe :- dataframe have rows and columns


#mostly dictionary used in pandas



inter_marks={'math':75,'chemistry':60,'physics':59}
second_series=pd.Series(inter_marks)
second_series
```

```
math         75
chemistry    60
physics      59
dtype: int64
```

```
#index called labeled in pandas
```

```
#create a dataframe using dictionary
data={"name":["manu",'sai','ashok'],
      'age':[20,28,32],
      'colleges':['jntu','srm','bits']}
df=pd.DataFrame(data)
df
```

	name	age	colleges
0	manu	20	jntu
1	sai	28	srm
2	ashok	32	bits

Next steps: Generate code with df View recommended plots

```
#create dataframe using list
data=[["manu",'sai','ashok'],
      [20,28,32],
      ['jntu','srm','bits']]
df=pd.DataFrame(data, columns=['Name','Age','College'],index=['name','age','college'])
df
```

	Name	Age	College
name	manu	sai	ashok
age	20	28	32
college	jntu	srm	bits

Next steps: Generate code with df View recommended plots

```
#files reading
df=pd.read_excel('/content/bala 16 th june.xlsx')
df
df.shape
```

```
(60, 5)
```

```
#using range indexing change the index

df_1=pd.DataFrame(df,index=pd.RangeIndex(10,19,name='updatedlabel'))
df_1
```

updatedlabel	MOBILE NUMBER	NAME	COMPANY	CITY	SALARY
10	9642999482	RAJASHEKAR	NaN	HYD	ABV 4 LKHS
11	9618750093	SUMANT REDDY	NaN	HYDERABAD	ABV 4 LAC
12	9618150208	RIYARA MISHRA	NaN	HYD	ABOVE 4 LACKS
13	9533470533	RAJ SHEKAR	NaN	HYD	ABOVE 4LACS
14	9177223346	SUDHIR	NaN	HYD	ABV 4 LKHS
15	8897686325	VENU GOPAL REDDY	NaN	HYD	ABOVE 4 LACKS
16	8886211260	SHOBA	NaN	HYDERABAD	ABOVE 4 LACS
17	8790075729	ST MOHAPATRA	NaN	HYDERABAD	ABV 4 LAC

```
df_1.set_index('NAME',inplace=True)#if we want to set the column as index use the setindex method
df_1
```

NAME	COMPANY	CITY	SALARY
RAJASHEKAR	NaN	HYD	ABV 4 LKHS
SUMANT REDDY	NaN	HYDERABAD	ABV 4 LAC
RIYARA MISHRA	NaN	HYD	ABOVE 4 LACKS
RAJ SHEKAR	NaN	HYD	ABOVE 4LACS
SUDHIR	NaN	HYD	ABV 4 LKHS
VENU GOPAL REDDY	NaN	HYD	ABOVE 4 LACKS
SHOBA	NaN	HYDERABAD	ABOVE 4 LACS
ST MOHAPATRA	NaN	HYDERABAD	ABV 4 LAC
RAJU	NaN	HYD	ABOVE 4 LAKH

```
df_1.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Index: 9 entries, RAJASHEKAR to RAJU
Data columns (total 3 columns):
 #   Column   Non-Null Count  Dtype
---  ------   --------------  -----
 0   COMPANY  0 non-null      object
 1   CITY     9 non-null      object
 2   SALARY   9 non-null      object
dtypes: object(3)
memory usage: 288.0+ bytes
```

```
#accessing row of index using iloc(iloc means integer location)

df_1.iloc[2]
```

```
MOBILE NUMBER       9618150208
NAME             RIYARA MISHRA
COMPANY                    NaN
```

```
CITY                       HYD
SALARY           ABOVE 4 LACKS
Name: 12, dtype: object
```

```
df_1.iloc[0:2]#here print rows only( for 0:2 means 0index and 1 index )
```

updatedlabel	MOBILE NUMBER	NAME	COMPANY	CITY	SALARY
10	9642999482	RAJASHEKAR	NaN	HYD	ABV 4 LKHS
11	9618750093	SUMANT REDDY	NaN	HYDERABAD	ABV 4 LAC

```
df_1.iloc[0:2,3]#here 3 means 4th column that is city column name
```

```
updatedlabel
10          HYD
11    HYDERABAD
Name: CITY, dtype: object
```

```
df_1.iloc[0:2,1:3]
```

updatedlabel	NAME	COMPANY
10	RAJASHEKAR	NaN
11	SUMANT REDDY	NaN