In [ ]:
```
CV  computer Vision

Deep learning

Read any image  video

OpenCV by Sentdex
```

Reading the data

In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

In [3]:
```
# File folder
# File name
# File extension
file_location="C:\\Users\\omkar\\OneDrive\\Documents\\Data science\\Naresh 1
```

In [4]:
```
dir(pd)
```

Out[4]:
```
['ArrowDtype',
 'BooleanDtype',
 'Categorical',
 'CategoricalDtype',
 'CategoricalIndex',
 'DataFrame',
 'DateOffset',
 'DatetimeIndex',
 'DatetimeTZDtype',
 'ExcelFile',
 'ExcelWriter',
 'Flags',
 'Float32Dtype',
 'Float64Dtype',
 'Grouper',
 'HDFStore',
 'Index',
 'IndexSlice',
 'Int16Dtype',
```

In [5]:
```
pd.read_csv(file_location)
```

Out[5]:

	case_id	continent	education_of_employee	has_job_experience	requires_job_traini
0	EZYV01	Asia	High School	N	
1	EZYV02	Asia	Master's	Y	
2	EZYV03	Asia	Bachelor's	N	
3	EZYV04	Asia	Bachelor's	N	
4	EZYV05	Africa	Master's	Y	
...	...	...	...	...	
25475	EZYV25476	Asia	Bachelor's	Y	
25476	EZYV25477	Asia	High School	Y	
25477	EZYV25478	Asia	Master's	Y	
25478	EZYV25479	Asia	Master's	Y	
25479	EZYV25480	Asia	Bachelor's	Y	

25480 rows × 12 columns

In [ ]:
```
Sir pls ask the people to create a fresh directory in any of the drive and
It will give working environment.
Otherwise most of the people show themselves as Just learners but not an ex
```

In [ ]:
```
- Next time

    - Folder name should be download

    - unicode error

    - file not found error

    - permission error (partially)
```

In [11]:
```
bank_data="C:\\Users\\omkar\\OneDrive\\Documents\\Data science\\Naresh IT\\D
pd.read_csv(bank_data,sep=';')
```

Out[11]:

	age	job	marital	education	default	balance	housing	loan	contact	day	r
0	30	unemployed	married	primary	no	1787	no	no	cellular	19	
1	33	services	married	secondary	no	4789	yes	yes	cellular	11	
2	35	management	single	tertiary	no	1350	yes	no	cellular	16	
3	30	management	married	tertiary	no	1476	yes	yes	unknown	3	
4	59	blue-collar	married	secondary	no	0	yes	no	unknown	5	
...	...	...	...	...	...	...	...	...	...	...	
4516	33	services	married	secondary	no	-333	yes	no	cellular	30	
4517	57	self-employed	married	tertiary	yes	-3313	yes	yes	unknown	9	
4518	57	technician	married	secondary	no	295	no	no	cellular	19	
4519	28	blue-collar	married	secondary	no	1137	no	no	cellular	6	
4520	44	entrepreneur	single	tertiary	no	1136	yes	yes	cellular	3	

4521 rows × 17 columns

In [ ]:
```
- text file

- csv

- bank_data="C:\\Users\\omkar\\OneDrive\\Documents\\Data science\\Naresh IT\
 pd.read_excel(bank_data,sep=';')
```

- How to create a Data frame
- How to add columns
- How to add rows
- How to drop columns
- How to drop rows
- How to save the Dataframe

$Method - 1$:

Create dataframe using List

$Step - 1$:

Create a data frame

In [4]:
```
Names=['Ramesh','Suresh','Sathish']
Age=[20,25,30]
pd.DataFrame(zip(Names,Age))
```

Out[4]:

	0	1
0	Ramesh	20
1	Suresh	25
2	Sathish	30

$Step - 2$:

Update the column names

In [5]:
```
Names=['Ramesh','Suresh','Sathish']
Age=[20,25,30]
pd.DataFrame(zip(Names,Age),columns=['Name','Age'])
```

Out[5]:

	Name	Age
0	Ramesh	20
1	Suresh	25
2	Sathish	30

$Strp - 3$:

Update the index

In [11]:
```
Names=['Ramesh','Suresh','Sathish']
Age=[20,25,30]
df1=pd.DataFrame(zip(Names,Age),
                 columns=['Name','Age'],
                 index=['A','B','C'])
df1
```

Out[11]:

	Name	Age
A	Ramesh	20
B	Suresh	25
C	Sathish	30

$Step - 4$:

Change the entire column data

In [15]:
```
df1['Name']=['Sathish','Suresh','Ramesh']
df1
```

Out[15]:

	Name	Age
A	Sathish	20
B	Suresh	25
C	Ramesh	30

$Step - 5$:

Create a new column

In [16]:
```
df1['City']=['Hyd','Mumbai','Chennai']
df1
```

Out[16]:

	Name	Age	City
A	Sathish	20	Hyd
B	Suresh	25	Mumbai
C	Ramesh	30	Chennai

$Step - 6$:

Add new rows: loc

In [20]:
```
# Change the index A B C  to 0  1   2
df1=pd.DataFrame(zip(Names,Age),
                 columns=['Name','Age'],
                 index=[0,1,2])
df1
```

Out[20]:

	Name	Age
0	Ramesh	20
1	Suresh	25
2	Sathish	30

In [21]:
```
len(df1.index)  # 3  === > 0 1 2
```

Out[21]:
```
3
```

In [26]:
```
df1.loc[3]=['Alex',35]
```

In [28]:
```
df1.loc['A']=['Bunny',40]
df1
```

Out[28]:

	Name	Age
0	Ramesh	20
1	Suresh	25
2	Sathish	30
3	Alex	35
A	Bunny	40

$Step - 7$:

Drop the column

- Before drop the column
- I will create a new column
- I have only two columns are there Name and Age
- I will create a city, Then I will drop that

In [31]:
```
Names=['Ramesh','Suresh','Sathish']
Age=[20,25,30]
df1=pd.DataFrame(zip(Names,Age),
                 columns=['Name','Age'],
                 index=[0,1,2])
df1['City']=['Hyd','Blr','Chennai']
df1
```

Out[31]:

	Name	Age	City
0	Ramesh	20	Hyd
1	Suresh	25	Blr
2	Sathish	30	Chennai

In [35]:
```
# Axis=1   It reference Column
# Axis=0   It reference rows
# The result You want to overwrite or save in another variable
df1.drop('City',
         axis=1,
        inplace=True)
```

In [36]:
```
df1
```

Out[36]:

	Name	Age
0	Ramesh	20
1	Suresh	25
2	Sathish	30

$Step - 8$

Drop the row

In [38]:
```
df1.drop(2,inplace=True)
```

In [39]:
```
df1
```

Out[39]:

	Name	Age
0	Ramesh	20
1	Suresh	25

In [ ]:
```
$Step-9$

**Save the df1 in local
```

In [ ]:
```

```

In [ ]:
```

```

In [40]:
```
Names=['Ramesh','Suresh','Sathish']
Age=[20,25,30]
df1=pd.DataFrame(zip(Names,Age),
                 columns=['Name','Age'],
                 index=[0,1,2])
df1['City']=['Hyd','Blr','Chennai']
df1
```

Out[40]:

	Name	Age	City
0	Ramesh	20	Hyd
1	Suresh	25	Blr
2	Sathish	30	Chennai

In [41]:
```
df1.drop('City',axis=1,inplace=True)
df1
```

Out[41]:

	Name	Age
0	Ramesh	20
1	Suresh	25
2	Sathish	30

In [42]:
```
df1.drop(2,inplace=True)
df1
```

Out[42]:

	Name	Age
0	Ramesh	20
1	Suresh	25

In [45]:
```
# Read data file is seperate folder
#       you need to provide path
# Write the output in seperate folder
#       you need to provide path
#folder location + name of the file + extension
df1.to_csv("C:\\Users\\omkar\\OneDrive\\Documents\\Data science\\Naresh IT\\
          index=False)
```

In [46]:
```
# First read
pd.read_csv("C:\\Users\\omkar\\OneDrive\\Documents\\Data science\\Naresh IT\
```

Out[46]:

	Name	Age
0	Ramesh	20
1	Suresh	25

In [55]:
```
# Same folder
df1.to_csv("output1.csv",index=False)
```

In [51]:
```
import os
os.getcwd()
```

Out[51]:
```
'C:\\Users\\omkar\\OneDrive\\Documents\\Data science\\Naresh IT\\Data scie
nce\\Batch-5_Dec\\EDA'
```

In [56]:
```
# Same folder
pd.read_csv("output1.csv")
```

Out[56]:

	Name	Age
0	Ramesh	20
1	Suresh	25

$Method - 2$:

Create a Dataframe using Dictionary

In [57]:
```
d1={'Names':['Ramesh','Suresh','Sathish'],
   'Age':[20,25,30]}
d1
# Keys consider a Column names
# Values consider a rows
```

Out[57]:
```
{'Names': ['Ramesh', 'Suresh', 'Sathish'], 'Age': [20, 25, 30]}
```

In [58]:
```
pd.DataFrame(d1)
```

Out[58]:

	Names	Age
0	Ramesh	20
1	Suresh	25
2	Sathish	30

In [59]:
```
l1=['Ramesh','Suresh','Sathish']
l2=[20,25,30]
pd.DataFrame(zip(l1,l2))
```

Out[59]:

	0	1
0	Ramesh	20
1	Suresh	25
2	Sathish	30

$Method - 3$

In [60]:
```
df1=pd.DataFrame()
df1
```

Out[60]: __

In [61]:
```
import random
even_list=[]
for i in range(5):
    num=random.randint(20,50)
    if num%2==0:
        even_list.append(num)
even_list
```

Out[61]: [24, 48, 38, 36]

In [62]:
```
df1['Even']=even_list
```

In [65]:
```
df1['Odd']=[1,3,5,7]
```

In [66]:
```
df1
```

Out[66]:

	Even	Odd
0	24	1
1	48	3
2	38	5
3	36	7

In [ ]:

In [ ]: