CSV File Handling

In [ ]:
```
CSV Files -->  A Comma Separated Values (CSV) file is a plain text file that stores data by delimiting data entries with commas.
          -->  if we want to store the data in form of excel(csv) then we can use csv file handling concept.
          -->  for using csv file in python  you need to import one module that is known as csv
Example:

        121, pratyush,9721372543,ashu
```

Write Operation in CSV Files

In [ ]:
```
For writing Purpose we in csv file we need to use 2 different Methods:

    writer method --> it ensures in which file you need to write the data
    writerow method --> it is used to write the data in the first row that will used as a coloumn for rest of the data.
                        In this function you need to pass argument as a list elemnt.
```

Example

In [1]:
```
import csv
with open("Extra.csv","w",newline="") as f:
    w=csv.writer(f)
    w.writerow(["Student_name","Student_age","Student Roll no","Student Mobile_no","Student Address"])
    n=int(input("Enter Number of Student whose data you want to store ")) #5
    for i in range(n):
        Student_name=input("Enter Student name :")
        Student_age=int(input("Enter Student age :"))
        Student_rollno=int(input("Enter Student RollNo :"))
        Student_mobile=int(input("Enter Student MobileNumber :"))
        Student_Address = input("Enter Student Address :")
        w.writerow([Student_name,Student_age,Student_rollno, Student_mobile])#,Student_Address])
print("Total Students data is stored")
```

```
Enter Number of Student whose data you want to store 2
Enter Student name :Aditya
Enter Student age :21
Enter Student RollNo :23
Enter Student MobileNumber :987
Enter Student Address :Lucknow
Enter Student name :Naman
Enter Student age :10
Enter Student RollNo :21
Enter Student MobileNumber :98
Enter Student Address :delhi
Total Students data is stored
```

Read Operation in CSV File

In [ ]:
```
for reading purpose we are having one method named as:

    reader() --> In this function we need to pass file pointer.
```

Example

In [6]:
```
import csv
f = open("employees.csv","r")
r=csv.reader(f)
data = list(r)
print(data)
```

```
[['Employee_Name', 'Employee_Number', 'Employee_Salary', 'Employee_Mobile'], ['Krish', '90', '90000000', '9721378976'], ['Arnav', '923', '9000000
0', '986'], ['name', '98', '98', '98'], ['tushar', '99', '99', '99']]
```

In [5]:
```
import csv
f = open("diabetes.csv","r")
r=csv.reader(f)
data = list(r)
print(data)
```

```
[['Pregnancies', 'Glucose', 'BloodPressure', 'SkinThickness', 'Insulin', 'BMI', 'DiabetesPedigreeFunction', 'Age', 'Outcome'], ['6', '148', '72',
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'23', '79', '28.4', '0.323', '34', '1'], ['8', '120', '86', '0', '0', '28.4', '0.259', '22', '1'], ['2', '174', '88', '37', '120', '44.5', '0.646',
'24', '1'], ['2', '106', '56', '27', '165', '29', '0.426', '22', '0'], ['2', '105', '75', '0', '0', '23.3', '0.56', '53', '0'], ['4', '95', '60',
'32', '0', '35.4', '0.284', '28', '0'], ['0', '126', '86', '27', '120', '27.4', '0.515', '21', '0'], ['8', '65', '72', '23', '0', '32', '0.6', '4
2', '0'], ['2', '99', '60', '17', '160', '36.6', '0.453', '21', '0'], ['1', '102', '74', '0', '0', '39.5', '0.293', '42', '1'], ['11', '120', '80',
'37', '150', '42.3', '0.785', '48', '1'], ['3', '102', '44', '20', '94', '30.8', '0.4', '26', '0'], ['1', '109', '58', '18', '116', '28.5', '0.21
9', '22', '0'], ['9', '140', '94', '0', '0', '32.7', '0.734', '45', '1'], ['13', '153', '88', '37', '140', '40.6', '1.174', '39', '0'], ['12', '10
0', '84', '33', '105', '30', '0.488', '46', '0'], ['1', '147', '94', '41', '0', '49.3', '0.358', '27', '1'], ['1', '81', '74', '41', '57', '46.3',
'1.096', '32', '0'], ['3', '187', '70', '22', '200', '36.4', '0.408', '36', '1'], ['6', '162', '62', '0', '0', '24.3', '0.178', '50', '1'], ['4',
'136', '70', '0', '0', '31.2', '1.182', '22', '1'], ['1', '121', '78', '39', '74', '39', '0.261', '28', '0'], ['3', '108', '62', '24', '0', '26',
'0.223', '25', '0'], ['0', '181', '88', '44', '510', '43.3', '0.222', '26', '1'], ['8', '154', '78', '32', '0', '32.4', '0.443', '45', '1'], ['1',
'128', '88', '39', '110', '36.5', '1.057', '37', '1'], ['7', '137', '90', '41', '0', '32', '0.391', '39', '0'], ['0', '123', '72', '0', '0', '36.
3', '0.258', '52', '1'], ['1', '106', '76', '0', '0', '37.5', '0.197', '26', '0'], ['6', '190', '92', '0', '0', '35.5', '0.278', '66', '1'], ['2',
'88', '58', '26', '16', '28.4', '0.766', '22', '0'], ['9', '170', '74', '31', '0', '44', '0.403', '43', '1'], ['9', '89', '62', '0', '0', '22.5',
'0.142', '33', '0'], ['10', '101', '76', '48', '180', '32.9', '0.171', '63', '0'], ['2', '122', '70', '27', '0', '36.8', '0.34', '27', '0'], ['5',
'121', '72', '23', '112', '26.2', '0.245', '30', '0'], ['1', '126', '60', '0', '0', '30.1', '0.349', '47', '1'], ['1', '93', '70', '31', '0', '30.
4', '0.315', '23', '0']]
```

Reading CSV File using Pandas

In [4]:

```
import pandas as pd
df=pd.read_csv("employees.csv")
df.head(5)
```

Out[4]:

	Employee_Name	Employee_Number	Employee_Salary	Employee_Mobile
0	Krish	90	90000000	9721378976
1	Arnav	923	90000000	986
2	name	98	98	98
3	tushar	99	99	99

In [8]:

```
import pandas as pd
df=pd.read_csv("diabetes.csv")
df.head(5)
```

Out[8]:

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
2	8	183	64	0	0	23.3	0.672	32	1

3	1	89	66	23	94	28.1	0.167	21	0
4	0	137	40	35	168	43.1	2.288	33	1

Append Mode in CSV File

In [ ]:
```
For appending Purpose we in csv file we need to use 2 different Methods:

    writer method --> it ensures in which file you need to write the data
    writerow method --> it is used to write the data in the first row that will used as a coloumn for rest of the data.
                        In this function you need to pass argument as a list elemnt.
```

Example

In [10]:
```
import csv
with open("Employees.csv","a",newline="") as f:
    w=csv.writer(f)
    w.writerow(["Student_name","Student_age","Student Roll no","Student Mobile_no","Student Address"])
    n=int(input("Enter Number of Student whose data you want to store ")) #5
    for i in range(n):
        Student_name=input("Enter Student name :")
        Student_age=int(input("Enter Student age :"))
        Student_rollno=int(input("Enter Student RollNo :"))
        Student_mobile=int(input("Enter Student MobileNumber :"))
        Student_Address = input("Enter Student Address :")
        w.writerow([Student_name,Student_age,Student_rollno, Student_mobile])#,Student_Address])
print("Total Students data is stored")
```

```
Enter Number of Student whose data you want to store 2
Enter Student name :Naman
Enter Student age :21
Enter Student RollNo :98
Enter Student MobileNumber :98
Enter Student Address :lucknow
Enter Student name :Pratyush
Enter Student age :21
Enter Student RollNo :90
Enter Student MobileNumber :95
Enter Student Address :Delhi
Total Students data is stored
```

XML File Handling

In [ ]:
```
XML --> Extensible markup language.
    --> if you want to store your data in the form of tags then you need to use xml file handling.
    --> Markup languages are those languages which consists of tags. <head> </head>
    --> then you need to import one module that is xmltodict
```

In [ ]:
```
--> for converting xml data to python dictionary we need to use parse method which is present in xmltodict module
```

Example

In [11]:
```
import xmltodict
my_xml = """
         <audience>
         <id>123</id>
         <name>Ankur</name>
         </audience>
         """
s = xmltodict.parse(my_xml)
s
```

Out[11]:
```
{'audience': {'id': '123', 'name': 'Ankur'}}
```

In [12]:
```
import xmltodict
my_xml = """<note>
             <to>Tove</to>
            <from>Jani</from>
            <heading>Reminder</heading>
            <body>Don't forget me this weekend!</body>
            </note>  """
s = xmltodict.parse(my_xml)
print(s)
```

```
{'note': {'to': 'Tove', 'from': 'Jani', 'heading': 'Reminder', 'body': "Don't forget me this weekend!"}}
```

In [13]:
```
my_xml = """
<bookstore>
  <book category="COOKING">
    <title lang="en">Everyday Italian</title>
    <author>Giada De Laurentiis</author>
    <year>2005</year>
    <price>30.00</price>
  </book>
  <book category="CHILDREN">
    <title lang="en">Harry Potter</title>
    <author>J K. Rowling</author>
    <year>2005</year>
    <price>29.99</price>
  </book>
  <book category="WEB">
    <title lang="en">Learning XML</title>
    <author>Erik T. Ray</author>
    <year>2003</year>
    <price>39.95</price>
  </book>
</bookstore>  """
s = xmltodict.parse(my_xml)
s
```

Out[13]:
```
{'bookstore': {'book': [{'@category': 'COOKING',
    'title': {'@lang': 'en', '#text': 'Everyday Italian'},
    'author': 'Giada De Laurentiis',
    'year': '2005',
    'price': '30.00'},
   {'@category': 'CHILDREN',
    'title': {'@lang': 'en', '#text': 'Harry Potter'},
    'author': 'J K. Rowling',
    'year': '2005',
    'price': '29.99'},
   {'@category': 'WEB',
    'title': {'@lang': 'en', '#text': 'Learning XML'},
    'author': 'Erik T. Ray',
    'year': '2003',
    'price': '39.95'}]}}
```

In [ ]: