```
In [4]: import pandas
        mydataset = {
          'cars': ["Kia", "Volvo", "Ford"],
          'passings': [3, 7, 2]
        myvar = pandas.DataFrame(mydataset)
        print(myvar)
            cars passings
                         3
             Kia
        1 Volvo
                         7
                          2
            Ford
In [2]: import pandas as pd
        mydataset = {
          'cars': ["BMW", "Volvo", "Ford"],
          'passings': [3, 7, 2]
        myvar = pd.DataFrame(mydataset)
        print(myvar)
            cars passings
        0
             BMW
                         3
                         7
        1 Volvo
                         2
            Ford
In [3]: import pandas as pd
        print(pd.__version__)
        1.3.4
```

```
In [1]: # Create series from a list
        import pandas as pd
        a = [2, 5, 9]
        myvar = pd.Series(a)
        print(myvar)
             2
        1
             5
             9
        2
        dtype: int64
In [2]: # By using Index argument
        import pandas as pd
        a = [2, 5, 9]
        myvar = pd.Series(a, index = ["x", "y", "z"])
        print(myvar)
             2
             5
        У
             9
        dtype: int64
In [3]: # Creating Pandas series from a dictionary
        import pandas as pd
        calories = {"day1": 690, "day2": 360, "day3": 220}
        myvar = pd.Series(calories)
        print(myvar)
        day1
                690
        day2
                 360
        day3
                220
        dtype: int64
```

```
In [4]: # Creating a series using only day1 and day2
         import pandas as pd
         calories = {"day1": 690, "day2": 360, "day3": 220}
         myvar = pd.Series(calories, index = ["day1", "day2"])
         print(myvar)
         day1
                 690
         day2
                  360
         dtype: int64
 In [9]: # Creating a Dataframes
         import pandas as pd
         data = {
             "calories": [990, 850, 450],
             "duration": [60, 50, 30]
         myvar = pd.DataFrame(data)
         print(myvar)
            calories duration
                 990
                             60
                  850
                             50
         1
                 450
                             30
         2
In [21]: # Load data into a DataFrame object:
         df = pd.DataFrame(data)
         print(df.loc[2])
         calories
                      390
         duration
                      45
         Name: 2, dtype: int64
In [24]: # Use a list of indexes:
         print(df.loc[[0, 2]])
            calories duration
         0
                 420
                             50
         2
                  390
                             45
```

```
In [26]: # Named Indexes
         import pandas as pd
         data = {
           "calories":[990, 850, 450],
             "duration": [60, 50, 30]
         }
         df = pd.DataFrame(data, index = ["day1", "day2", "day3"])
         print(df)
               calories duration
         day1
                     990
                                60
         day2
                     850
                                50
                                30
         day3
                     450
In [27]: # Locate Named Indexes
         import pandas as pd
         data = {
           "calories": [420, 380, 390],
           "duration": [50, 40, 45]
         df = pd.DataFrame(data, index = ["day1", "day2", "day3"])
         print(df.loc["day2"])
         calories
                      380
         duration
                      40
         Name: day2, dtype: int64
In [28]: # Load Files Into a DataFrame
         import pandas as pd
         df = pd.read_csv('data.csv')
         print(df)
                 name price
         0
                Book
                          25
         1
                Coke
                          50
                Cake
         2
                         74
         3
               Pizza
                         150
         4
              Burger
                          95
         5
            Sandwich
                          80
                        5000
         6
               watch
         7
              Mobile 25000
```

```
In [30]: import pandas as pd
         df = pd.read_csv('C:\\Users\CSE22004\Documents\VU21CSEN0101226.Manasa\info.csv')
         print(df)
             Sno
                      Names Marks
         0
                     Chaitu
                                93
              1
         1
              2
                     Manasa
                                97
         2
              3
                 Varshitha
                                95
         3
              4
                    Abhigna
                                96
In [40]: import pandas as pd
         df = pd.read csv("C:\\Users\CSE22004\Documents\VU21CSEN0101226.Manasa\item.csv")
         print(df)
            Sno
                         Item Non Veg
         0
                       Paneer
                               Chickn
              1
              2
         1
                     Mushroom
                                 Fish
         2
              3
                    Baby Corn Mutton
              4 Kaju Paneer Prawns
         3
In [36]: # Series in pandas in int
         import pandas as nsk
         c=[1,7,5,8,3]
         z=nsk.Series(c)
         print(z)
         0
              1
         1
              7
              5
         2
              8
         3
              3
         dtype: int64
In [37]: # Series in pandas in float
         import pandas as nsk
         c=[1,7.5,8.6,3]
         z=nsk.Series(c)
         print(z)
         0
              1.0
         1
              7.5
         2
              8.6
              3.0
         dtype: float64
```

```
In [45]: # Remove Rows from dataframe
         # Cleaning Data
         import pandas as pd
         df = pd.read_csv('D://item.csv')
         new_df = df.dropna()
         print(new_df.to_string())
            Sno
                        Item Non Veg
         0
              1
                      Paneer Chickn
              2
         1
                    Mushroom
                                Fish
              3
                   Baby Corn
                              Mutton
         3
              4 Kaju Paneer
                              Prawns
In [17]: |# Replace NULL value with the number
         import pandas as pd
         df = pd.read csv('D://Names,age,gender.csv')
         df.dropna(inplace = True)
         print(df.to_string())
            SL.No
                     Names Age Gender
         0
                1
                    Manasa
                             18
                                      F
         1
                2 Abhigna
                             17
                                      F
         2
                3
                             20
                                     Μ
                   Jayanth
In [29]: # Replace NULL Values with number T
         import pandas as pd
         df = pd.read_csv('D:\\Names,age,gender.csv')
         df.fillna("T", inplace = True)
         print(df)
            SL.No
                     Names Age Gender
         0
                             18
                                      F
                1
                    Manasa
                                      F
         1
                2 Abhigna
                             17
         2
                3 Jayanth
                             20
                                     Μ
         3
                    Ramesh
                             22
                                      Τ
```

```
In [35]: # Cleaning Wrong Format
         import pandas as pd
         df = pd.read_csv('C:\\Users\CSE22004\Documents\VU21CSEN0101226.Manasa\dob.csv')
         df['DOB'] = pd.to_datetime(df['DOB'])
         print(df.to_string())
            Sno
                    name
                                DOB
                  chaitu 2004-05-17
              1
         1
                  manasa 2003-10-10
         2
              3 abhigna 2004-06-05
In [34]: import pandas as pd
         df = pd.read_csv('C:\\Users\CSE22004\Documents\VU21CSEN0101226.Manasa\marks.csv')
         for x in df.index:
           if df.loc[x, "marks"] == 90:
             df.loc[x, "marks"] = 93
         print(df.to_string())
            Sno
                     name marks
         0
                             100
               1
                   Manasa
         1
               2
                   Chaitu
                              93
         2
               3
                  Abhigna
                              95
               4 Rithika
                              96
         3
```

5

Riya

92

```
In [2]: import pandas as pd
    df = pd.read_csv('D:\\Address, Passport.csv')
    print(df.to_string())
```

	S1.No	Name	Age	Phone no.	Gender	Address	Unnamed: 6 Having P
	lot PP						
0 Y	1 N	Manasa	18	8765433215	F	Gajuwaka	NaN
1 N	2 Y	Priya	20	9876543211	F	Vadlapudi	NaN
2 Y	3	Raju	24	9807654787	М	Srinagar	NaN
3	N 4	Ashu	26	8987654678	F	Birla Jctn	NaN
Y 4	N 5	Ramesh	30	8765442391	М	Gurudwar	NaN
N 5	Y 6	Yashraj	35	8766540987	М	Autonagar	NaN
Y 6	N 7	Anjali	42	9878987654	F	Yendada	NaN
N 7	Y 8	Gayatri	45	8987965432	F	Mindhi	NaN
Y 8	N 9	Prakash	50	9876565432	М	Jug jnctn	NaN
N 9	Y 10	Thapesh	54	8769546372	М	Adda road	NaN
Y 10	N 11	Kalavathi	34	9874321892	F	Agnampudi	NaN
N 11	Y 12	Khushi	19	8987654356	F	Lankelapalem	NaN
Y 12	N 13	Riya	44	9875567493	М	Jharkhand	NaN
N 13	Y 14	Rithika	56	9876475352	М	Jaipur	NaN
N 14	Y 15	Priyanka	67	9876975436	F	Vijaywada	NaN
Y 15	N 16	Satyam	70	9878965432	М	Vizinagaram	NaN
N 16	Y 17	Shasi	68	6768435374	М	Gujarat	NaN
Y 17	N 18	Hari	78	9456832175	F	Mumbai	NaN
N 18	Y 19	Piyush	20	9876543435	М	Chennai	NaN
Y 19	N 20	Dipak	79	9765432114	М	Kochi	NaN
N 20	Y 21	Guru	80	9876543214	М	Kharakpur	NaN
Y 21	N 22	Giri	56	9675435775	М	Raipur	NaN
N 22 Y	Y 23 N	Giridhar	60	9456231728	М	Goa	NaN

```
In [21]: import pandas as pd
    df = pd.read_csv('D:\\Address, Passport.csv')
    de = pd.DataFrame
    print(de)
```

<class 'pandas.core.frame.DataFrame'>

```
In [8]: import pandas as pd
    df = pd.read_csv('D:\\Address, Passport.csv')
    print(df.to_string())
    de = df.drop_duplicates(subset="Name",keep="first")
    print(de)
```

	S1.No	Name	Age	Phone no.	Gender	Address
0	1	Manasa	18	8765433215	F	Gajuwaka
1	2	Priya	20	9876543211	F	Vadlapudi
2	3	Raju	24	9807654787	М	Srinagar
3	4	Ashu	26	8987654678	F	Birla Jctn
4	5	Ramesh	30	8765442391	М	Gurudwar
5	6	Yashraj	35	8766540987	М	Autonagar
6	7	Anjali	42	9878987654	F	Yendada
7	8	Gayatri	45	8987965432	F	Mindhi
8	9	Prakash	50	9876565432	М	Jug jnctn
9	10	Thapesh	54	8769546372	М	Adda road
10	11	Kalavathi	34	9874321892	F	Agnampudi
11	12	Khushi	19	8987654356	F	Lankelapalem
12	13	Riya	44	9875567493	F	Jharkhand
13	14	Rithika	56	9876475352	F	Jaipur
14	15	Priyanka	67	9876975436	F	Vijaywada
15	16	Satyam	70	9878965432	М	Vizinagaram
16	17	Shasi	68	6768435374	М	Gujarat
17	18	Hari	78	9456832175	F	Mumbai
18	19	Piyush	20	9876543435	М	Chennai
19	20	Dipak	79	9765432114	М	Kochi
20	21	Guru	80	9876543214	М	Kharakpur
21	22	Giri	56	9675435775	М	Raipur
22	23	Giridhar	60	9456231728	М	Goa
	Sl.No	Name	Age	Phone no.	Gender	Address
0	1	Manasa	18	8765433215	F	Gajuwaka
1	2	Priya	20	9876543211	F	Vadlapudi
2	3	Raju	24	9807654787	М	Srinagar
3	4	Ashu	26	8987654678	F	Birla Jctn
4	5	Ramesh	30	8765442391	М	Gurudwar
5	6	Yashraj	35	8766540987	М	Autonagar
6	7	Anjali	42	9878987654	F	Yendada
7	8	Gayatri	45	8987965432	F	Mindhi
8	9	Prakash	50	9876565432	М	Jug jnctn
9	10	Thapesh	54	8769546372	М	Adda road
10	11	Kalavathi	34	9874321892	F	Agnampudi
11	12	Khushi	19	8987654356	F	Lankelapalem
12	13	Riya	44	9875567493	F	Jharkhand
13	14	Rithika	56	9876475352	F	Jaipur
14	15	Priyanka	67	9876975436	F	Vijaywada
15	16	Satyam	70	9878965432	М	Vizinagaram
16	17	Shasi	68	6768435374	М	Gujarat
17	18	Hari	78	9456832175	F	Mumbai
18	19	Piyush	20	9876543435	М	Chennai
19	20	Dipak	79	9765432114	М	Kochi
20	21	Guru	80	9876543214	М	Kharakpur
21	22	Giri	56	9675435775	М	Raipur
22	23	Giridhar	60	9456231728	М	Goa

```
In [6]: import pandas as pd
    df = pd.read_csv('D:\\Address, Passport.csv')
    print(df.to_string())
    de = df.drop_duplicates(subset="Name",keep="last")
    print(de)
```

	S1.No	Name	Age	Phone no.	Gender	Address
0	1	Manasa	18	8765433215	F	Gajuwaka
1	2	Priya	20	9876543211	F	Vadlapudi
2	3	Raju	24	9807654787	М	Srinagar
3	4	Ashu	26	8987654678	F	Birla Jctn
4	5	Ramesh	30	8765442391	М	Gurudwar
5	6	Yashraj	35	8766540987	М	Autonagar
6	7	Anjali	42	9878987654	F	Yendada
7	8	Gayatri	45	8987965432	F	Mindhi
8	9	Prakash	50	9876565432	М	Jug jnctn
9	10	Thapesh	54	8769546372	М	Adda road
10	11	Kalavathi	34	9874321892	F	Agnampudi
11	12	Khushi	19	8987654356	F	Lankelapalem
12	13	Riya	44	9875567493	F	Jharkhand
13	14	Rithika	56	9876475352	F	Jaipur
14	15	Priyanka	67	9876975436	F	Vijaywada
15	16	Satyam	70	9878965432	М	Vizinagaram
16	17	Shasi	68	6768435374	М	Gujarat
17	18	Hari	78	9456832175	F	Mumbai
18	19	Piyush	20	9876543435	М	Chennai
19	20	Dipak	79	9765432114	М	Kochi
20	21	Guru	80	9876543214	М	Kharakpur
21	22	Giri	56	9675435775	М	Raipur
22	23	Giridhar	60	9456231728	М	Goa
	Sl.No	Name	Age	Phone no.	Gender	Address
0	1	Manasa	18	8765433215	F	Gajuwaka
1	2	Priya	20	9876543211	F	Vadlapudi
2	3	Raju	24	9807654787	М	Srinagar
3	4	Ashu	26	8987654678	F	Birla Jctn
4	5	Ramesh	30	8765442391	М	Gurudwar
5	6	Yashraj	35	8766540987	М	Autonagar
6	7	Anjali	42	9878987654	F	Yendada
7	8	Gayatri	45	8987965432	F	Mindhi
8	9	Prakash	50	9876565432	М	Jug jnctn
9	10	Thapesh	54	8769546372	М	Adda road
10	11	Kalavathi	34	9874321892	F	Agnampudi
11	12	Khushi	19	8987654356	F	Lankelapalem
12	13	Riya	44	9875567493	F	Jharkhand
13	14	Rithika	56	9876475352	F	Jaipur
14	15	Priyanka	67	9876975436	F	Vijaywada
15	16	Satyam	70	9878965432	М	Vizinagaram
16	17	Shasi	68	6768435374	М	Gujarat
17	18	Hari	78	9456832175	F	Mumbai
18	19	Piyush	20	9876543435	М	Chennai
19	20	Dipak	79	9765432114	М	Kochi
20	21	Guru	80	9876543214	М	Kharakpur
21	22	Giri	56	9675435775	М	Raipur
22	23	Giridhar	60	9456231728	М	Goa

```
In [9]: import pandas as pd
    df = pd.read_csv('D:\\Address, Passport.csv')
    print(df.to_string())
    de = df.drop_duplicates(inplace=True)
    print(de)
```

	Sl.No	Name	Age	Phone no.	Gender	Address
0	1	Manasa	18	8765433215	F	Gajuwaka
1	2	Priya	20	9876543211	F	Vadlapudi
2	3	Raju	24	9807654787	М	Srinagar
3	4	Ashu	26	8987654678	F	Birla Jctn
4	5	Ramesh	30	8765442391	М	Gurudwar
5	6	Yashraj	35	8766540987	М	Autonagar
6	7	Anjali	42	9878987654	F	Yendada
7	8	Gayatri	45	8987965432	F	Mindhi
8	9	Prakash	50	9876565432	М	Jug jnctn
9	10	Thapesh	54	8769546372	М	Adda road
10	11	Kalavathi	34	9874321892	F	Agnampudi
11	12	Khushi	19	8987654356	F	Lankelapalem
12	13	Riya	44	9875567493	F	Jharkhand
13	14	Rithika	56	9876475352	F	Jaipur
14	15	Priyanka	67	9876975436	F	Vijaywada
15	16	Satyam	70	9878965432	М	Vizinagaram
16	17	Shasi	68	6768435374	М	Gujarat
17	18	Hari	78	9456832175	F	Mumbai
18	19	Piyush	20	9876543435	М	Chennai
19	20	Dipak	79	9765432114	М	Kochi
20	21	Guru	80	9876543214	М	Kharakpur
21	22	Giri	56	9675435775	М	Raipur
22	23	Giridhar	60	9456231728	М	Goa
Non	е					

```
In [12]: import pandas as pd
    df = pd.read_csv('D:\\Address, Passport.csv')
    print(df.to_string())
    de = df.drop_duplicates(inplace=False)
    print(de)
```

	S1.No	Name	Age	Phone no.	Gender	Address
0	1	Manasa	18	8765433215	F	Gajuwaka
1	2	Priya	20	9876543211	F	Vadlapudi
2	3	Raju	24	9807654787	М	Srinagar
3	4	Ashu	26	8987654678	F	Birla Jctn
4	5	Ramesh	30	8765442391	М	Gurudwar
5	6	Yashraj	35	8766540987	М	Autonagar
6	7	Anjali	42	9878987654	F	Yendada
7	8	Gayatri	45	8987965432	F	Mindhi
8	9	Prakash	50	9876565432	М	Jug jnctn
9	10	Thapesh	54	8769546372	М	Adda road
10	11	Kalavathi	34	9874321892	F	Agnampudi
11	12	Khushi	19	8987654356	F	Lankelapalem
12	13	Riya	44	9875567493	F	Jharkhand
13	14	Rithika	56	9876475352	F	Jaipur
14	15	Priyanka	67	9876975436	F	Vijaywada
15	16	Satyam	70	9878965432	M	Vizinagaram
16	17	Shasi	68	6768435374	М	Gujarat
17	18	Hari	78	9456832175	F	Mumbai
18	19	Piyush	20	9876543435	M	Chennai
19	20	Dipak	79	9765432114	M	Kochi
20	21	Guru	80	9876543214	M	Kharakpur
21	22	Giri	56	9675435775	M	Raipur
22	23	Giridhar	60	9456231728	M	Goa
		0	• •			
	Sl.No	Name	Age	Phone no.	Gender	Address
0	Sl.No 1	Name Manasa	Age 18	Phone no. 8765433215		Address Gajuwaka
0 1	1	Manasa	18	8765433215	F	Gajuwaka
1	1 2	Manasa Priya	18 20	8765433215 9876543211	F F	Gajuwaka Vadlapudi
1 2	1 2 3	Manasa Priya Raju	18 20 24	8765433215 9876543211 9807654787	F F M	Gajuwaka Vadlapudi Srinagar
1 2 3	1 2 3 4	Manasa Priya Raju Ashu	18 20 24 26	8765433215 9876543211 9807654787 8987654678	F F M F	Gajuwaka Vadlapudi Srinagar Birla Jctn
1 2 3 4	1 2 3 4 5	Manasa Priya Raju Ashu Ramesh	18 20 24 26 30	8765433215 9876543211 9807654787 8987654678 8765442391	F F M F M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar
1 2 3 4 5	1 2 3 4 5 6	Manasa Priya Raju Ashu Ramesh Yashraj	18 20 24 26 30 35	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987	F M F M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar
1 2 3 4 5 6	1 2 3 4 5 6 7	Manasa Priya Raju Ashu Ramesh Yashraj Anjali	18 20 24 26 30 35 42	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654	F M F M M F	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada
1 2 3 4 5 6 7	1 2 3 4 5 6 7 8	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri	18 20 24 26 30 35 42 45	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432	F M F M F F	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi
1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8 9	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash	18 20 24 26 30 35 42 45 50	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432	F M F M F F M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn
1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8 9	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh	18 20 24 26 30 35 42 45 50	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372	F M F M F F M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road
1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9 10	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh	18 20 24 26 30 35 42 45 50 54 34	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892	F M F M F M M F	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi
1 2 3 4 5 6 7 8 9 10 11	1 2 3 4 5 6 7 8 9 10 11 12	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi	18 20 24 26 30 35 42 45 50 54 34	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356	F M F M F F M M F F	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem
1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12 13	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya	18 20 24 26 30 35 42 45 50 54 34 19	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356 9875567493	F M F M F F M M F F F	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand
1 2 3 4 5 6 7 8 9 10 11 12 13	1 2 3 4 5 6 7 8 9 10 11 12 13 14	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika	18 20 24 26 30 35 42 45 50 54 34 19 44 56	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356 9875567493 9876475352	F M F M M F F M M F F F F	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand
1 2 3 4 5 6 7 8 9 10 11 12 13 14	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika Priyanka	18 20 24 26 30 35 42 45 50 54 34 19 44 56 67	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356 9875567493 9876475352 9876975436	F F M F M M F F F F F	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand Jaipur
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika Priyanka Satyam	18 20 24 26 30 35 42 45 50 54 34 19 44 56 67 70	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356 9875567493 9876475352 9876975436 9878965432	F F M F M M F F F F F M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand Jaipur Vijaywada Vizinagaram
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika Priyanka Satyam Shasi	18 20 24 26 30 35 42 45 50 54 34 19 44 56 67 70 68	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356 9875567493 9876475352 9876975436 9878965432 6768435374	F F M F M M F F F F F M M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand Jaipur Vijaywada Vizinagaram Gujarat
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika Priyanka Satyam Shasi Hari	18 20 24 26 30 35 42 45 50 54 34 19 44 56 67 70 68 78	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356 9875567493 9876475352 9876975436 9878965432 6768435374 9456832175	F F M F M M F F F F F M M F	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand Jaipur Vijaywada Vizinagaram Gujarat Mumbai
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika Priyanka Satyam Shasi Hari Piyush	18 20 24 26 30 35 42 45 50 54 34 19 44 56 67 70 68 78 20	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356 9875567493 9876475352 9876975436 9878965432 6768435374 9456832175 9876543435	F F M F M M F F F F F M M F M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand Jaipur Vijaywada Vizinagaram Gujarat Mumbai Chennai
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika Priyanka Satyam Shasi Hari Piyush Dipak	18 20 24 26 30 35 42 45 50 54 34 19 44 56 67 70 68 78 20 79	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 987654356 9875567493 9876475352 9876975436 9878965432 6768435374 9456832175 98765432114	F F M F M M F F F F F M M F M M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand Jaipur Vijaywada Vizinagaram Gujarat Mumbai Chennai
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika Priyanka Satyam Shasi Hari Piyush Dipak Guru	18 20 24 26 30 35 42 45 50 54 34 19 44 56 67 70 68 78 20 79 80	876543215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 9874321892 8987654356 9875567493 9876475352 9876975436 9878965432 6768435374 9456832175 98765432114 9876543214	F F M F M M F F F F F F M M F M M M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand Jaipur Vijaywada Vizinagaram Gujarat Mumbai Chennai Kochi
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Manasa Priya Raju Ashu Ramesh Yashraj Anjali Gayatri Prakash Thapesh Kalavathi Khushi Riya Rithika Priyanka Satyam Shasi Hari Piyush Dipak	18 20 24 26 30 35 42 45 50 54 34 19 44 56 67 70 68 78 20 79	8765433215 9876543211 9807654787 8987654678 8765442391 8766540987 9878987654 8987965432 9876565432 8769546372 987654356 9875567493 9876475352 9876975436 9878965432 6768435374 9456832175 98765432114	F F M F M M F F F F F M M F M M	Gajuwaka Vadlapudi Srinagar Birla Jctn Gurudwar Autonagar Yendada Mindhi Jug jnctn Adda road Agnampudi Lankelapalem Jharkhand Jaipur Vijaywada Vizinagaram Gujarat Mumbai Chennai

```
In [7]: import pandas as pd
    df = pd.read_csv('D:\\Address, Passport.csv')
    df.aggregate({"Age":['min','max']})
    print(df.to_string())
```

Sl.		Name	Age	Phone no.	Gender	Address	Having PP	Not PP Nat
0 Indian	1	Manasa	18	8765433215	F	Gajuwaka	N	Υ
1 Indian	2	Priya	20	9876543211	F	Vadlapudi	Υ	N
2 Indian	3	Raju	24	9807654787	М	Srinagar	Υ	N
3 Indian	4	Ashu	26	8987654678	F	Birla Jctn	N	Υ
4 Indian	5	Ramesh	30	8765442391	М	Gurudwar	Υ	N
5 Indian	6	Yashraj	35	8766540987	М	Autonagar	N	Υ
6 Indian	7	Anjali	42	9878987654	F	Yendada	Υ	N
7 Indian	8	Gayatri	45	8987965432	F	Mindhi	N	Υ
8 Indian	9	Prakash	50	9876565432	М	Jug jnctn	N	Υ
9 Indian	10	Thapesh	54	8769546372	М	Adda road	N	Υ
10 Indian	11	Kalavathi	34	9874321892	F	Agnampudi	Υ	N
11 Indian	12	Khushi	19	8987654356	F	Lankelapalem	Y	N
12 Indian	13	Riya	44	9875567493	F	Jharkhand	N	Υ
13 Indian	14	Rithika	56	9876475352	F	Jaipur	N	Y
14 Indian	15	Priyanka	67	9876975436	F 	Vijaywada	Y	N
15 Indian	16	Satyam	70	9878965432	М	Vizinagaram	N	Y
16 Indian 17	17	Shasi	68		M F	Gujarat	Y	
Indian 18	18 19	Hari Piyush	78 20	9456832175	r M	Mumbai Chennai	N Y	Y N
Indian 19	20	Dipak	79	9876543435 9765432114	M	Kochi	Y N	Y
Indian 20	21	Guru	80	9876543214	M	Kharakpur	N	Υ
Indian 21	22	Giri	56	9675435775	М	Raipur	N	Y
Indian 22	23	Giridhar	60	9456231728	M	Goa	Y	r N
Indian	۷۵	GII IUIIAI.	שט	J4JUZJI/Z0	I*I	dOa	Y	IV

```
In [8]: import pandas as pd
    df = pd.read_csv('D:\\Address, Passport.csv')
    df.aggregate({"Phone no.":['min','max']})
    print(df.to_string())
```

	. No	Name	Age	Phone no.	Gender	Address	Having PP	Not PP	Nat
ionalit 0 Indian	1	Manasa	18	8765433215	F	Gajuwaka	N	Υ	
1 Indian	2	Priya	20	9876543211	F	Vadlapudi	Υ	N	
2 Indian	3	Raju	24	9807654787	М	Srinagar	Υ	N	
3 Indian	4	Ashu	26	8987654678	F	Birla Jctn	N	Υ	
4 Indian	5	Ramesh	30	8765442391	М	Gurudwar	Υ	N	
5 Indian	6	Yashraj	35	8766540987	М	Autonagar	N	Υ	
6 Indian	7	Anjali	42	9878987654	F	Yendada	Υ	N	
7 Indian	8	Gayatri	45	8987965432	F	Mindhi	N	Υ	
8 Indian	9	Prakash	50	9876565432	М	Jug jnctn	N	Υ	
9 Indian	10	Thapesh	54	8769546372	М	Adda road	N	Υ	
10 Indian	11	Kalavathi	34	9874321892	F	Agnampudi	Υ	N	
11 Indian	12	Khushi	19	8987654356	F	Lankelapalem	Υ	N	
12 Indian	13	Riya	44	9875567493	F	Jharkhand	N	Y	
13 Indian	14	Rithika	56	9876475352	F	Jaipur	N	Y	
14 Indian	15	Priyanka	67	9876975436	F	Vijaywada	Υ	N	
15 Indian	16	Satyam	70	9878965432	М	Vizinagaram	N	Y	
16 Indian	17	Shasi	68	6768435374	М	Gujarat	Υ	N	
17 Indian	18	Hari	78	9456832175	F	Mumbai	N	Y	
18 Indian	19	Piyush	20	9876543435	М	Chennai	Υ	N	
19 Indian	20	Dipak	79	9765432114	М	Kochi	N	Y	
20 Indian	21	Guru	80	9876543214	М	Kharakpur	N	Y	
21 Indian	22	Giri	56	9675435775	М	Raipur	N	Y	
22 Indian	23	Giridhar	60	9456231728	М	Goa	Υ	N	

```
In [15]: import pandas as pd
         df = pd.read_csv('D:\\Address, Passport.csv')
         print(df.aggregate({"Age":['min','max']}))
              Age
         min
               18
               80
         max
In [14]:
         import pandas as pd
         df = pd.read_csv('D:\\Address, Passport.csv')
         print(df.aggregate({"Phone no.":['min','max']}))
               Phone no.
         min
              6768435374
              9878987654
         max
In [16]: import pandas as pd
         df = pd.read_csv('D:\\Address, Passport.csv')
         print(df.aggregate({"Age":['sum']}))
               Age
             1075
         sum
In [17]: import pandas as pd
         df = pd.read_csv('D:\\Address, Passport.csv')
         print(df.aggregate({"Age":['mean']}))
         mean 46.73913
In [18]:
         import pandas as pd
         df = pd.read_csv('D:\\Address, Passport.csv')
         print(df.aggregate({"Age":['mean']}))
         print(df.aggregate({"Sl.No":['max']}))
                    Age
         mean 46.73913
              S1.No
                 23
         max
```

```
In [24]: import pandas as pd
a = df.groupby(by='Address')
a.first()
```

Out[24]:

	SI.No	Name	Age	Phone no.	Gender	Having PP	Not PP	Nationality
Address								
Adda road	10	Thapesh	54	8769546372	М	N	Υ	Indian
Agnampudi	11	Kalavathi	34	9874321892	F	Υ	N	Indian
Autonagar	6	Yashraj	35	8766540987	М	N	Υ	Indian
Birla Jctn	4	Ashu	26	8987654678	F	N	Υ	Indian
Chennai	19	Piyush	20	9876543435	М	Υ	N	Indian
Gajuwaka	1	Manasa	18	8765433215	F	N	Υ	Indian
Goa	23	Giridhar	60	9456231728	М	Υ	N	Indian
Gujarat	17	Shasi	68	6768435374	М	Υ	N	Indian
Gurudwar	5	Ramesh	30	8765442391	М	Υ	N	Indian
Jaipur	14	Rithika	56	9876475352	F	N	Υ	Indian
Jharkhand	13	Riya	44	9875567493	F	N	Υ	Indian
Jug jnctn	9	Prakash	50	9876565432	М	N	Υ	Indian
Kharakpur	21	Guru	80	9876543214	М	N	Υ	Indian
Kochi	20	Dipak	79	9765432114	М	N	Υ	Indian
Lankelapalem	12	Khushi	19	8987654356	F	Y	N	Indian
Mindhi	8	Gayatri	45	8987965432	F	N	Υ	Indian
Mumbai	18	Hari	78	9456832175	F	N	Υ	Indian
Raipur	22	Giri	56	9675435775	М	N	Υ	Indian
Srinagar	3	Raju	24	9807654787	М	Y	N	Indian
Vadlapudi	2	Priya	20	9876543211	F	Y	N	Indian
Vijaywada	15	Priyanka	67	9876975436	F	Υ	N	Indian
Vizinagaram	16	Satyam	70	9878965432	М	N	Υ	Indian
Yendada	7	Anjali	42	9878987654	F	Υ	N	Indian

```
In [26]: import pandas as pd
a = df.groupby(by=['Address', 'Name'])
a.first()
```

Out[26]:

		SI.No	Age	Phone no.	Gender	Having PP	Not PP	Nationality
Address	Name							
Adda road	Thapesh	10	54	8769546372	М	N	Υ	Indian
Agnampudi	Kalavathi	11	34	9874321892	F	Υ	N	Indian
Autonagar	Yashraj	6	35	8766540987	М	N	Υ	Indian
Birla Jctn	Ashu	4	26	8987654678	F	N	Υ	Indian
Chennai	Piyush	19	20	9876543435	М	Υ	N	Indian
Gajuwaka	Manasa	1	18	8765433215	F	N	Υ	Indian
Goa	Giridhar	23	60	9456231728	М	Υ	N	Indian
Gujarat	Shasi	17	68	6768435374	М	Υ	N	Indian
Gurudwar	Ramesh	5	30	8765442391	М	Υ	N	Indian
Jaipur	Rithika	14	56	9876475352	F	N	Υ	Indian
Jharkhand	Riya	13	44	9875567493	F	N	Υ	Indian
Jug jnctn	Prakash	9	50	9876565432	М	N	Υ	Indian
Kharakpur	Guru	21	80	9876543214	М	N	Υ	Indian
Kochi	Dipak	20	79	9765432114	М	N	Υ	Indian
Lankelapalem	Khushi	12	19	8987654356	F	Υ	N	Indian
Mindhi	Gayatri	8	45	8987965432	F	N	Υ	Indian
Mumbai	Hari	18	78	9456832175	F	N	Υ	Indian
Raipur	Giri	22	56	9675435775	М	N	Υ	Indian
Srinagar	Raju	3	24	9807654787	М	Υ	N	Indian
Vadlapudi	Priya	2	20	9876543211	F	Υ	N	Indian
Vijaywada	Priyanka	15	67	9876975436	F	Υ	N	Indian
Vizinagaram	Satyam	16	70	9878965432	М	N	Υ	Indian
Yendada	Anjali	7	42	9878987654	F	Υ	N	Indian

```
In [27]: import pandas as pd
a = df.groupby(by=['Address', 'Name'])
print(type(a))
print(pd.DataFrame(a))
```

```
<class 'pandas.core.groupby.generic.DataFrameGroupBy'>
                                                                                1
0
      (Adda road, Thapesh)
                                S1.No
                                           Name Age
                                                       Phone no. Gender
1
    (Agnampudi, Kalavathi)
                                 S1.No
                                              Name
                                                          Phone no. Gender
                                                    Age
2
      (Autonagar, Yashraj)
                                S1.No
                                                       Phone no. Gender
                                           Name
                                                 Age
3
        (Birla Jctn, Ashu)
                                S1.No
                                       Name
                                              Age
                                                    Phone no. Gender
                                                                          Add...
         (Chennai, Piyush)
4
                                 S1.No
                                           Name Age
                                                       Phone no. Gender
                                                                          Add...
5
        (Gajuwaka, Manasa)
                                S1.No
                                                      Phone no. Gender
                                                                          Add...
                                          Name Age
6
           (Goa, Giridhar)
                                 S1.No
                                                          Phone no. Gender Ad...
                                             Name
                                                   Age
                                                                         Addr...
7
          (Gujarat, Shasi)
                                 S1.No
                                                      Phone no. Gender
                                          Name
                                                Age
8
        (Gurudwar, Ramesh)
                                S1.No
                                          Name
                                                Age
                                                      Phone no. Gender
                                                                          Add...
         (Jaipur, Rithika)
9
                                 S1.No
                                                         Phone no. Gender Add...
                                            Name Age
         (Jharkhand, Riya)
10
                                 S1.No
                                        Name
                                              Age
                                                     Phone no. Gender
                                                                          Add...
11
      (Jug jnctn, Prakash)
                                Sl.No
                                           Name
                                                       Phone no. Gender
                                                                            Α...
                                                 Age
         (Kharakpur, Guru)
12
                                 S1.No
                                                     Phone no. Gender
                                                                          Add...
                                        Name Age
            (Kochi, Dipak)
13
                                 S1.No
                                          Name
                                                Age
                                                      Phone no. Gender Addre...
14
    (Lankelapalem, Khushi)
                                 S1.No
                                           Name Age
                                                       Phone no. Gender
15
         (Mindhi, Gayatri)
                                S1.No
                                           Name Age
                                                       Phone no. Gender Addr...
             (Mumbai, Hari)
                                                     Phone no. Gender Addres...
16
                                 S1.No
                                        Name
                                               Age
17
             (Raipur, Giri)
                                                     Phone no. Gender Addres...
                                 S1.No
                                        Name
                                               Age
          (Srinagar, Raju)
                                                    Phone no. Gender
18
                                S1.No
                                       Name
                                              Age
                                                                        Addre...
19
        (Vadlapudi, Priya)
                                S1.No
                                        Name
                                                     Phone no. Gender
                                                                          Add...
                                               Age
20
     (Vijaywada, Priyanka)
                                 S1.No
                                                          Phone no. Gender
                                             Name
                                                   Age
21
     (Vizinagaram, Satyam)
                                 S1.No
                                           Name
                                                       Phone no. Gender
                                                Age
         (Yendada, Anjali)
                                S1.No
                                                      Phone no. Gender Addr...
22
                                          Name Age
```

```
In [ ]:
```