

**Ex.No-4****Data Loading and Storing****LOADING****Aim:**

To read excel/csv/text files and extract the relevant information

**Description:**

1. Read and display the excel file data
2. Through DataFrame get the details of column headings
3. Through DataFrame get the details of the shape of Excel table
4. Through DataFrame get the particular column values
5. Through DataFrame extract/slice the Excel table values
6. Through DataFrame get the particular row values
7. Through DataFrame make an average of particular column values

**Program:**

```
import pandas as pd
d=pd.read_csv("LAS.csv")
#Get the table data
print("Get the table data:\n")
print(d)
#print(d.to_string())
df=pd.DataFrame(d)
#print(df)
#Get the column heading
print("\nGet the column heading\n",df.columns)
#Get the shape (no.of rows.no, of columns)
print("\nGet the shape (no.of rows,no.of columns)\n",df.shape)
#Get particular column values
print("\nGet particular column values\n",df['roll.no'])
```

```
#Extract/slice the table values (including this row, excluding this row
print("\nExtract/slice the table values-[including this row, excluding this row]\n",df[2:5])
#Get the particular row values through row number identification
print("\nGet the particular row values-through row number identification\n",df.loc[7])
#Get the particular row values-through 'Roll number' identification
print("\nGet the particular row values-through 'Roll number' identification\n",d.loc[d['roll.no']==5])
#Make an average of total mark
df=df['total']/5
print("\n Make an average of total marks:\n",df)
```

**Output:**

Get the table data:

|   | roll.no | name    | maths | science | social | total |
|---|---------|---------|-------|---------|--------|-------|
| 0 | 1       | deepa   | 50    | 67      | 50     | 284   |
| 1 | 2       | dinesh  | 56    | 89      | 56     | 346   |
| 2 | 3       | kaviya  | 80    | 80      | 80     | 400   |
| 3 | 4       | racheal | 89    | 87      | 89     | 441   |
| 4 | 5       | rajan   | 90    | 98      | 90     | 466   |
| 5 | 6       | ramya   | 67    | 76      | 67     | 353   |
| 6 | 7       | rohan   | 56    | 67      | 57     | 301   |
| 7 | 8       | sandhya | 58    | 56      | 58     | 286   |
| 8 | 9       | saranya | 49    | 45      | 49     | 237   |

Get the column heading

```
Index(['roll.no', 'name', 'maths', 'science', 'social', 'total'], dtype='object')
```

Get the shape (no.of rows,no.of columns)

(9, 6)

Get the column heading

```
Index(['roll.no', 'name', 'maths', 'science', 'social', 'total'], dtype='object')
```

Get the shape (no.of rows,no.of columns)

```
(9, 6)
```

Get particular column values

```
0 1
```

```
1 2
```

```
2 3
```

```
3 4
```

```
4 5
```

```
5 6
```

```
6 7
```

```
7 8
```

```
8 9
```

```
Name: roll.no, dtype: int64
```

Extract/slice the table values-[including this row, excluding this

```
row] roll.no name maths science social total
```

```
2 3 kaviya 80 80 80 400
```

```
3 4 racheal 89 87 89 441
```

```
4 5 rajan 90 98 90 466
```

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Get the particular row values-through row number identification

```
roll.no      8
name      sandhya

maths      58
science    56
social     58
total     286
```

Name: 7, dtype: object

Get the particular row values-through 'Roll number'

```
identification roll.no name maths science social total
4      5 rajan   90    98    90  466
```

Make an average of total marks:

```
0  56.8
1  69.2
2  80.0
3  88.2
4  93.2
5  70.6
6  60.2
7  57.2
8  47.4
```

Name: total, dtype: float64

## STORING

### Aim:

To store and manipulate input data from DataFrame to Excel/CSV through Pandas.

### Description:

1. Create a DataFrame and store the data into specified Excel file
2. To read two Excel file data and merge through append function and store the merged data in to the new Excel file.
3. Using sort function, to sort and store the resultant data into a new Excel file
4. Read and display the CSV file
5. List the column headings and get the length of the table data.

### Program :

```
import pandas as pd
d=pd.read_csv("LAS.csv")
df=pd.DataFrame(d)
print("Original DataFrame:\n",df)
#Second Dataframe input to another Excel file
d=pd.DataFrame([[20,'divya',95,85,76,256], [14,'lakshmi',90,80,58,228], [32,'ganesh',70,47,88,205]],
columns=['roll.no', 'name', 'maths', 'science', 'social', 'total'])
d.to_csv('pandas_to_csv.csv')
#Merging two Excel files input into third file
x=pd.read_csv("LAS.csv")
y=pd.read_csv('pandas_to_csv.csv')
y.drop(['Unnamed: 0'],axis = 1,inplace=True)
z=pd.concat([x,y],ignore_index=True)
z.to_csv('pandas_to_csv3.csv')
#Sorting the column vaules
df=z.sort_values(["roll.no"])
print("\nSorted Values:\n",df)
df.to_csv('pandas_to_csv4.csv')
df=pd.read_csv('LAS.csv')
print(list(df))
print(format(len(df)))
```

**Output:**

Original DataFrame:

|   | roll.no | name    | maths | science | social | total |
|---|---------|---------|-------|---------|--------|-------|
| 0 | 1       | deepa   | 50    | 67      | 50     | 284   |
| 1 | 2       | dinesh  | 56    | 89      | 56     | 346   |
| 2 | 3       | kaviya  | 80    | 80      | 80     | 400   |
| 3 | 4       | racheal | 89    | 87      | 89     | 441   |
| 4 | 5       | rajan   | 90    | 98      | 90     | 466   |
| 5 | 6       | ramya   | 67    | 76      | 67     | 353   |
| 6 | 7       | rohan   | 56    | 67      | 57     | 301   |
| 7 | 8       | sandhya | 58    | 56      | 58     | 286   |
| 8 | 9       | saranya | 49    | 45      | 49     | 237   |

Sorted Values:

|    | roll.no | name    | maths | science | social | total |
|----|---------|---------|-------|---------|--------|-------|
| 0  | 1       | deepa   | 50    | 67      | 50     | 284   |
| 1  | 2       | dinesh  | 56    | 89      | 56     | 346   |
| 2  | 3       | kaviya  | 80    | 80      | 80     | 400   |
| 3  | 4       | racheal | 89    | 87      | 89     | 441   |
| 4  | 5       | rajan   | 90    | 98      | 90     | 466   |
| 5  | 6       | ramya   | 67    | 76      | 67     | 353   |
| 6  | 7       | rohan   | 56    | 67      | 57     | 301   |
| 7  | 8       | sandhya | 58    | 56      | 58     | 286   |
| 8  | 9       | saranya | 49    | 45      | 49     | 237   |
| 10 | 14      | lakshmi | 90    | 80      | 58     | 228   |
| 9  | 20      | divya   | 95    | 85      | 76     | 256   |
| 11 | 32      | ganesh  | 70    | 47      | 88     | 205   |

['roll.no',  
'name', 'maths', 'science', 'social', 'total'] 9

**Result:**

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The programs were run successfully