



**PYTHON**

**EMERGING  
TECHNOLOGIES**

(TECH8020)  
(Embedded Systems Development)  
(Fall-2021)

**ASSIGNMENT - 3**

**SUBMITTED BY:**

**Sai Teja Anaparthi (8696855)**

---

## **Python library - PANDAS**

### **INTRODUCTION:**

Python is one of most powerful language and its very easy to learn and its biggest strength its syntax which is elegant and its interpreted nature which makes it best language for scripting.

So, Python has many libraries which has its own purpose of functioning and operation, but in this paper, we are going discuss about the PANDAS library features, installation, and operation etc.

### **OVERVIEW:**

Panda is one of the libraries of python and its widely used in recent times. It is used convert long and unsorted raw data into something understandable and meaning full way and this are some essential operations like we can load the data frames, joining data frames, merging data frames, deleting null values, and analyzing the data types etc.

### **FEATURES:**

There are many key features in pandas like it loads data Frame very fast and in efficient way. With help pandas we can reshape the datasets and it has very high performance for merging data and joining the data. We can even delete the columns of data structure and slicing and subsetting the large data tables. The above are the few features of pandas.

### **INSTALLATION:**

Firstly, we need to have python in our system, and I could say keep it to latest version of python because PANDAS support from Python 3.7.1 and above and presently the latest is 3.10.0 and follow this: <https://docs.python.org/3/using/windows.html>

After having / installing python then we will install the PANDAS libraries:

- If you prefer with pip (Most widely used way) – windows, MacOS

**pip install pandas**

- If you like conda

**conda install pandas**

The above are one of the ways to install PANDAS and there are many ways to install them.

- To verify the confirmation of download and to know its version

**pip show pandas**

- For ubuntu operating system we need to use this command for downloading the pandas

**Sudo apt-get install python-numpy python-scipy python-pandas python-sympy python-nose**

### **OPERATION:**

- Basically, we will use two types of data files like CSV or Excel.
- So now we will try to create our own CSV with our own data

```
#To Create data into csv
import pandas as pd
import numpy as np

data = {
    'Friends': ['Sai Teja', 'Manikanta', 'Shubham', 'Rohith'],
    'Nick_Name': ['Nani', 'Pup', 'bham', 'bunty']
}

df = pd.DataFrame(data, columns = ['Friends', 'Nick_Name'])
df
```

- Below are the commands to convert it into csv file and read the csv file

```
#To convert to csv file and to read csv file
df.to_csv('./Lab.csv')
df = pd.read_csv('./Lab.csv')
df
```

- So now we will try to create our own excel with our own data

```
import pandas as pd
```

```
data2 = {  
    'Friends': ['Sai Teja', 'Manikanta', 'Shubham', 'Rohith'],  
    'Nick_Name': ['Nani', 'Pup', 'bham', 'bunty']  
}
```

```
Df2 = pd.DataFrame(data2, columns = ['Friends', 'Nick_Name'])  
Df2
```

```
#To convert to excel and read excel file  
df.to_excel('./Lab.xls')  
df = pd.read_excel('./Lab.xls')  
df
```

- These commands are used for merging the two data frames

```
#Merging of data frames  
#consider two files like df1, df2  
df = pd.merge(df1, df2, on = 'student')  
df
```

- These commands are used for removing null values in a table

```
#Removing null values in table  
df_complete = df.dropna()  
df_complete
```

- These commands are used for analysing and checking

```
#Analyzing and checking the data types  
correlation = df['X'].corr(df['Y'])
```

- Basically, above are the basic commands which are used in pandas there many more types and different way of using them.

## **CONCLUSION:**

Pandas' libraries are excellent for playing around the datasets to manipulate them and sort them much we can do to the large datasets of different types, but the syntax can be very boring sometimes.

**REFERENCE:**

["(N.N),(n.d),Pandas Pros & Cons, Data Flair, Retrieved from November 19,2021, from <https://data-flair.training/blogs/advantages-of-python-pandas/> ]

["(N.N), (n.d), Pandas Useful Resources, Tutorials Point, Retrieved from November 19,2021, from [https://www.tutorialspoint.com/python\\_pandas/python\\_pandas\\_quick\\_guide.htm](https://www.tutorialspoint.com/python_pandas/python_pandas_quick_guide.htm)

**Date: 01/12/2021**  
**Time:9Am to 1Am**

**ASSIGNMENTS - 3**  
**TECH 8020**

**Date: 01/12/2021**  
**Time:9Am to 1Am**

**ASSIGNMENTS - 3**  
**TECH 8020**