



Experiment No. 12
Program to demonstrate data frame creation and Manipulation using Pandas
Date of Performance:
Date of Submission:

Experiment No. 12

Title: Program to demonstrate data frame creation and Manipulation using Pandas

Aim: To study and implement data frame creation and Manipulation using Pandas

Objective: To introduce Pandas package for python

Theory:

Pandas is an open-source library that is built on top of NumPy library. It is a Python package that offers various data structures and operations for manipulating numerical data and time series. It is mainly popular for importing and analyzing data much easier. Pandas is fast and it has high-performance & productivity for users.



Code:

```
import pandas as pd

# Define the dataset

mydataset = {

    'cars': ["BMW", "Mustang", "Ford"],

    'passings': [8, 6, 2]

}

# Create a DataFrame

myvar = pd.DataFrame(mydataset)

# Print the DataFrame

print(myvar)
```



Output:

```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows [Version 10.0.18363.1198]
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C:\Users\VISHNU PAREKH\Documents>python panda.py
   cars  passings
0    BMW         8
1  Mustang         6
2    Ford         2

C:\Users\VISHNU PAREKH\Documents>
```

Create Labels

```
import pandas as pd
a = [6,5,2]
myvar = pd.Series(a,index=["a","b","c"])
print(myvar)
```



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Department of Computer Engineering

```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows [Version 10.0.18363.1198]
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C:\Users\VISHNU PAREKH\Documents>python panda.py
a      6
b      5
c      2
dtype: int64

C:\Users\VISHNU PAREKH\Documents>
```

Data Frames

```
import pandas as pd
data = {
    "calories":[400,300,390],
    "duration":[50,60,45]
}
myvar = pd.DataFrame(data)
print(myvar)
```



```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows [Version 10.0.18363.1198]
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C:\Users\VISHNU PAREKH\Documents>python panda.py
  calories  duration
0       400        50
1       300        60
2       390        45

C:\Users\VISHNU PAREKH\Documents>
```

Read CSV Files

```
import pandas as pd
pd.options.display.max_rows = 90
df = pd.read_csv('avenger.csv')
print(df)
```



```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows [Version 10.0.18363.1198]
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C:\Users\VISHNU PAREKH\Documents\pythonpanda>python panda.py
Username      Login email  Identifier First name Last name
0      rdj    rdj@gmail.com    1234      Robert   Junior
1      cap    cap@gmail.com    5467      Chris    Evans
2    green  green@gmail.com    4785      Bruce    Banner
3    storm  storm@gamil.com    2345      Chris    Hemsworth

C:\Users\VISHNU PAREKH\Documents\pythonpanda>
```

Conclusion: Dataframes have been created and manipulated using Pandas.

The provided program demonstrates data frame creation and manipulation using pandas by reading a CSV file ('File.csv') into a DataFrame ('df') and displaying its contents. This showcases pandas' ability to handle tabular data efficiently for tasks such as data loading, exploration, and analysis, making it a versatile tool for data manipulation and analysis tasks in Python.