Experiment No. 11
Program to demonstrate data frame creation and Manipulation using Pandas

Experiment No. 11

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:

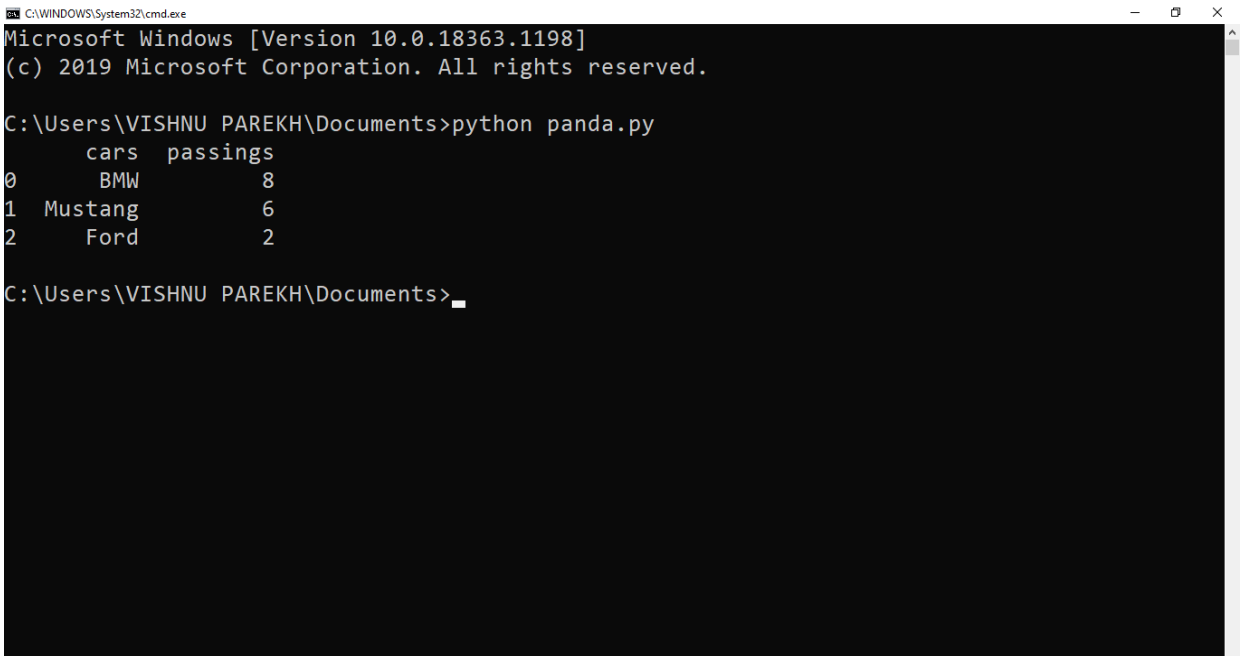
```
import pandas as pd


# 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:

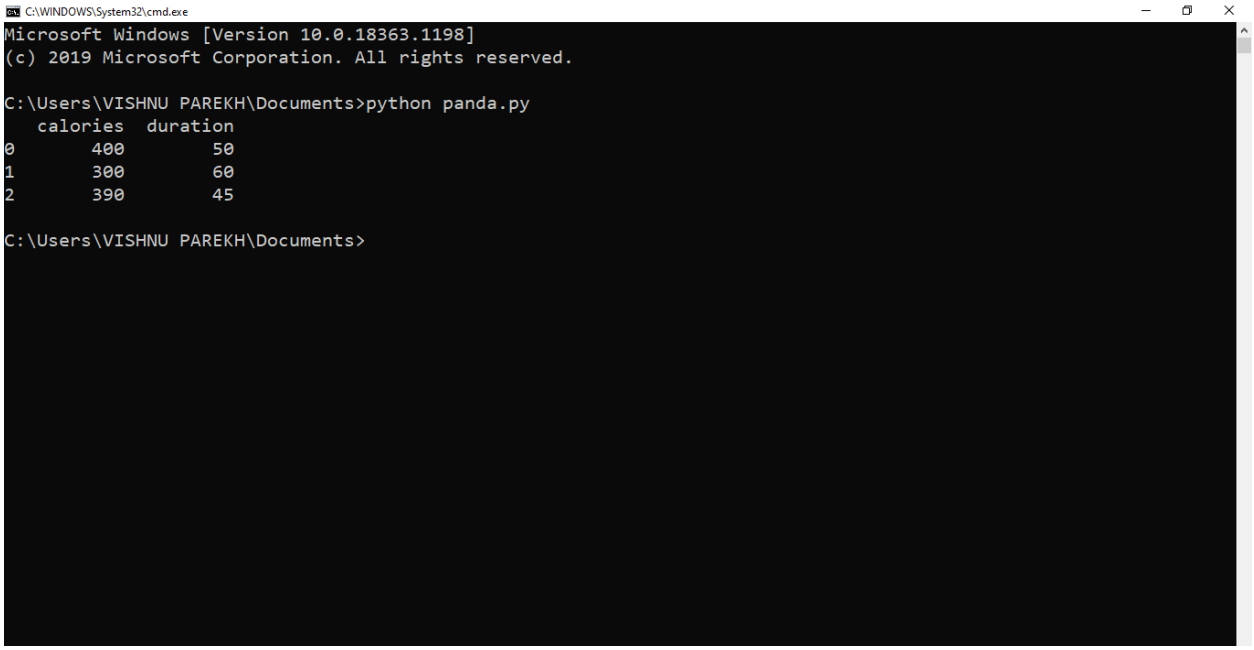


Create Labels

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

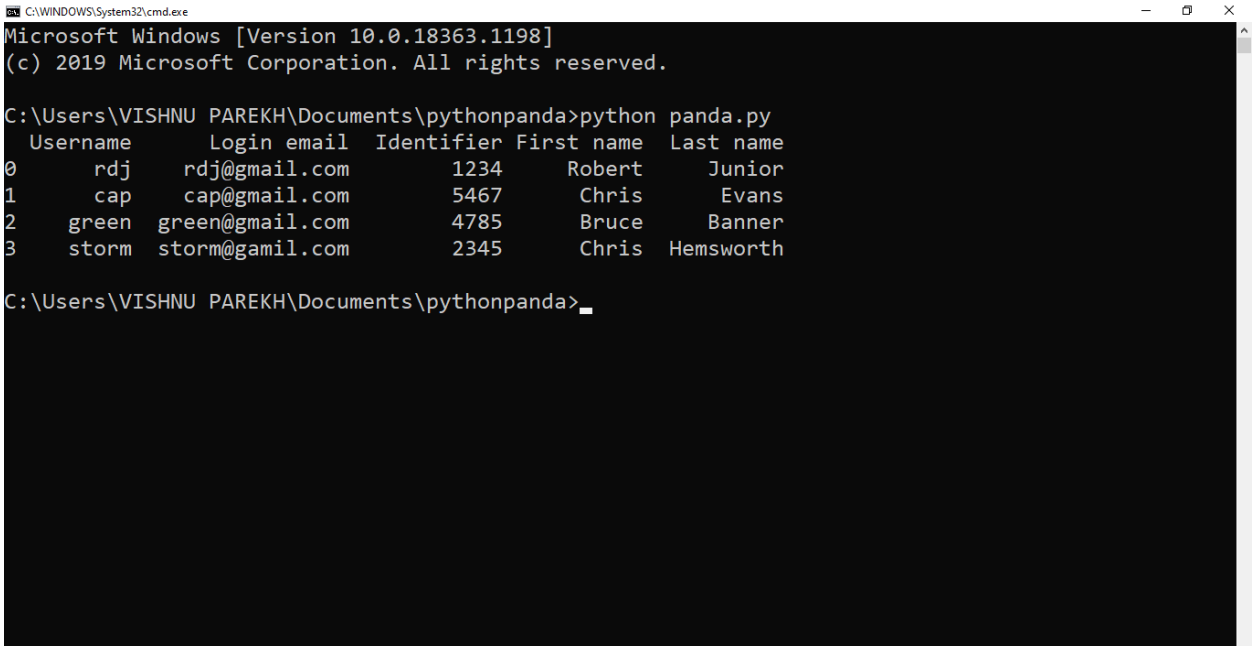
Data Frames

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



Read CSV Files

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



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.