## Pandas DataFrames

Pandas is a high-level data manipulation tool developed by Wes McKinney. It is built on the Numpy package and its key data structure is called the DataFrame. DataFrames allow you to store and manipulate tabular data in rows of observations and columns of variables.

**Example1:**

dict = {"country": ["Brazil", "Russia", "India", "China", "South Africa"],

"capital": ["Brasilia", "Moscow", "New Dehli", "Beijing", "Pretoria"],

"area": [8.516, 17.10, 3.286, 9.597, 1.221],

"population": [200.4, 143.5, 1252, 1357, 52.98] }

import pandas as pd

brics = pd.DataFrame(dict)

print(brics)

brics.index = ["BR", "RU", "IN", "CH", "SA"]

# Print out brics with new index values
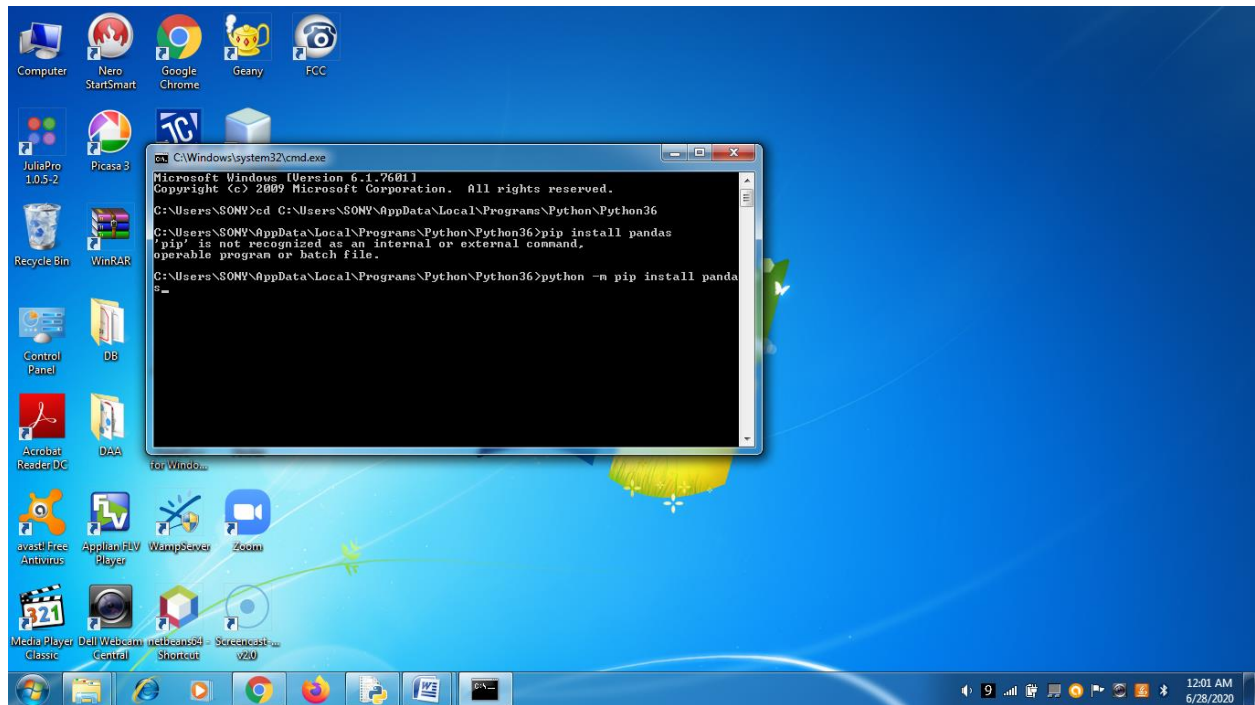
print(brics)

## Create a Series from ndarray

If data is an ndarray, then index passed must be of the same length. If no index is passed, then by default index will be **range(n)** where **n** is array length, i.e., [0,1,2,3…. **range(len(array))-1].**
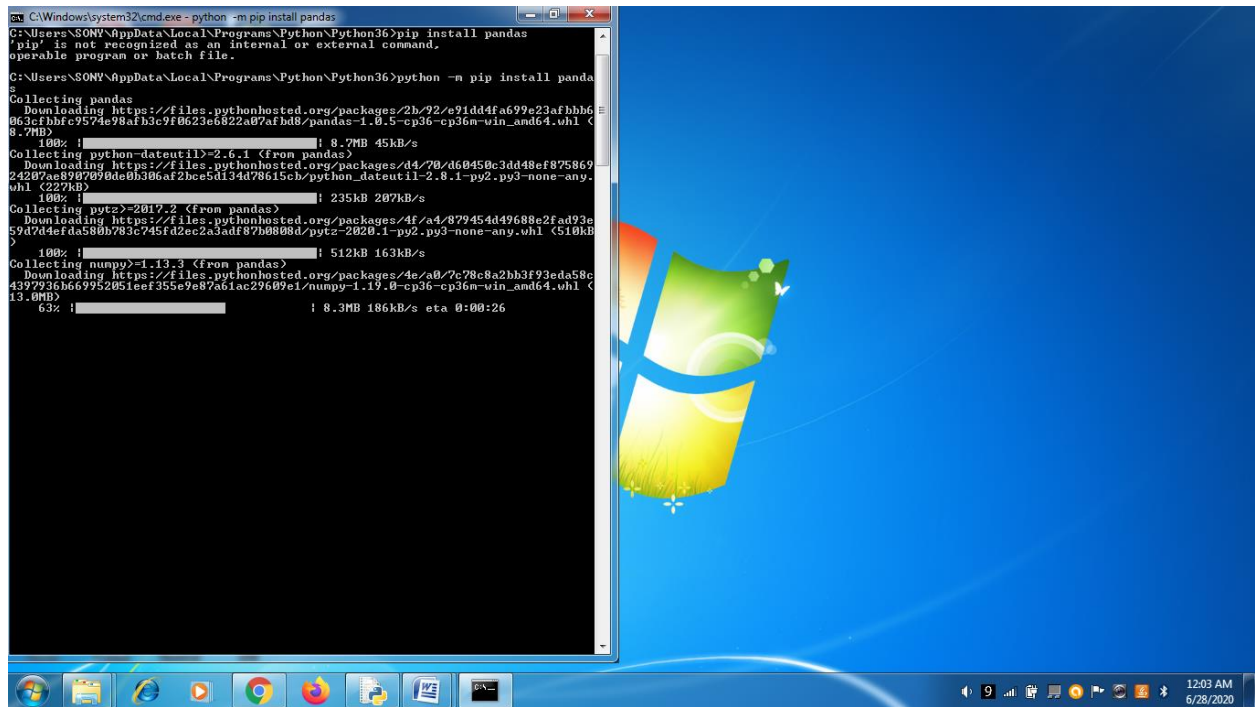
Example 2:

import pandas as pd

import numpy as np

data = np.array(['a','b','c','d'])

s = pd.Series(data,index=[100,101,102,103])

#s = pd.Series(data)

print(s)

# Procedure to install pandas

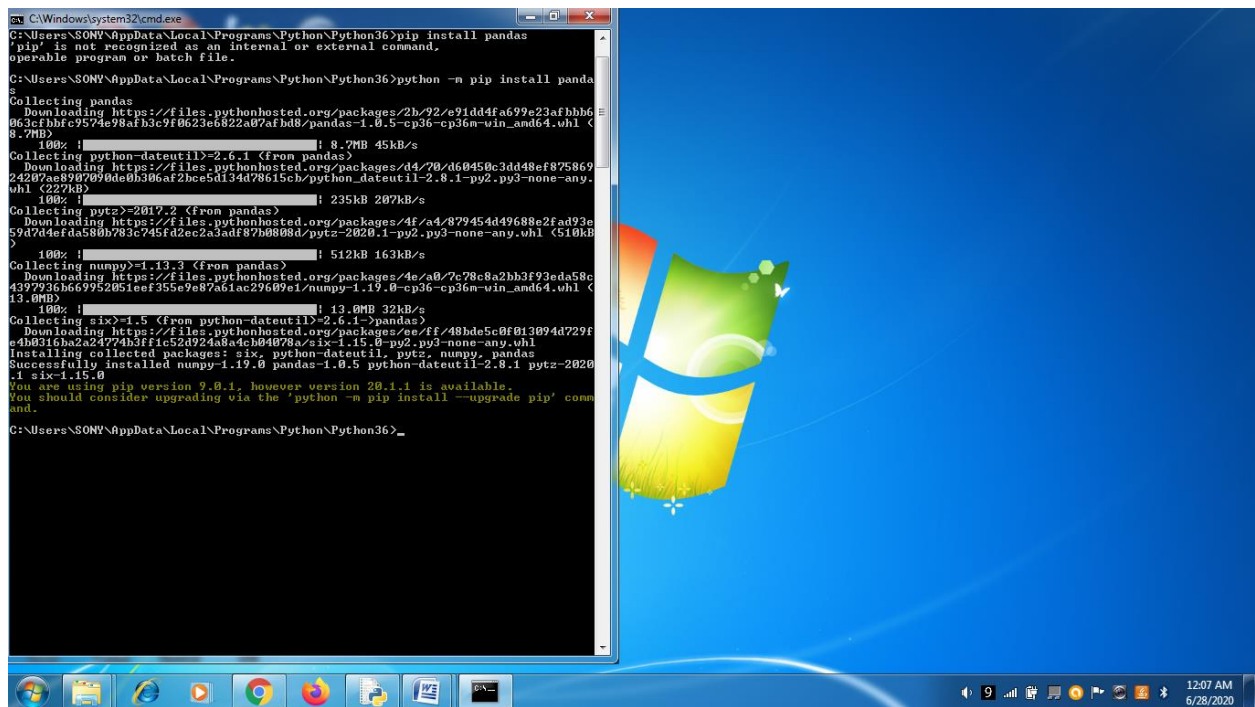1.cmd prompt type **cd C:\Users\SONY\AppData\Local\Programs\Python\Python36**


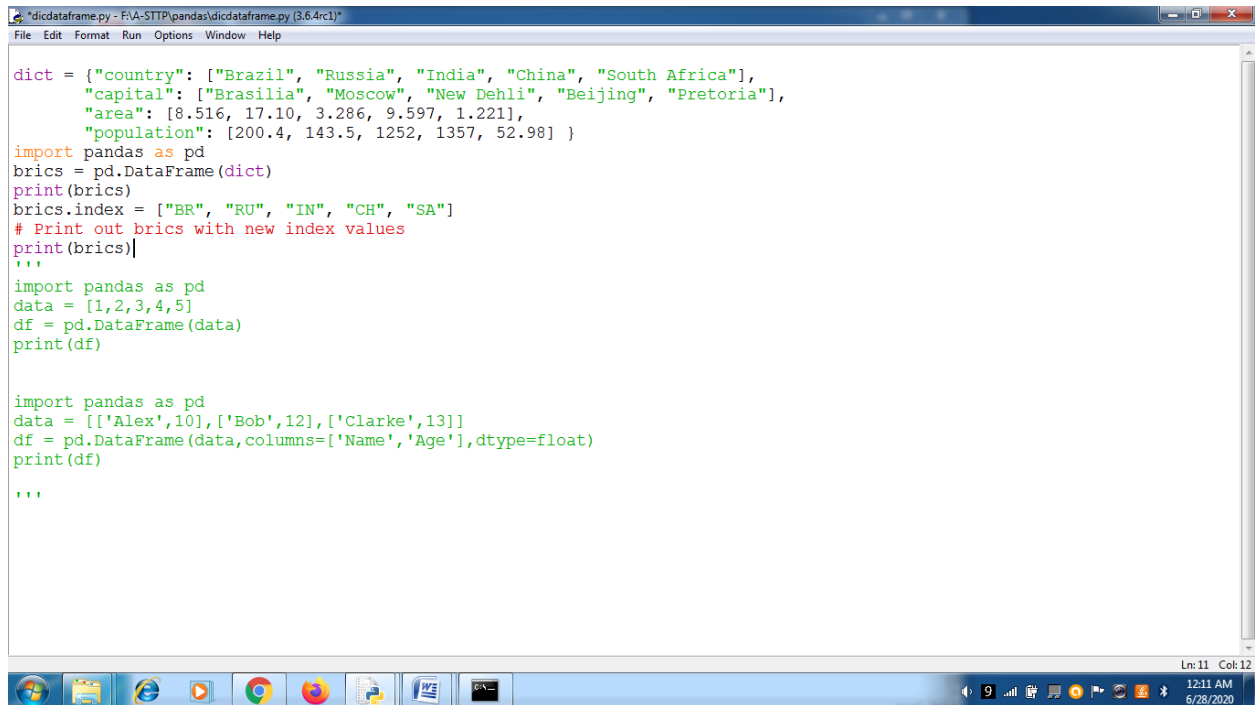
2. Type the command **python –m pip install pandas**

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3.Pandas installed successfully



4.Type the python code

```
dict = {"country": ["Brazil", "Russia", "India", "China", "South Africa"],
        "capital": ["Brasilia", "Moscow", "New Dehli", "Beijing", "Pretoria"],
        "area": [8.516, 17.10, 3.286, 9.597, 1.221],
        "population": [200.4, 143.5, 1252, 1357, 52.98] }
import pandas as pd
brics = pd.DataFrame(dict)
print(brics)
brics.index = ["BR", "RU", "IN", "CH", "SA"]
# Print out brics with new index values
print(brics)
'''
import pandas as pd
data = [1,2,3,4,5]
df = pd.DataFrame(data)
print(df)


import pandas as pd
data = [['Alex',10],['Bob',12],['Clarke',13]]
df = pd.DataFrame(data,columns=['Name','Age'],dtype=float)
print(df)

'''
```
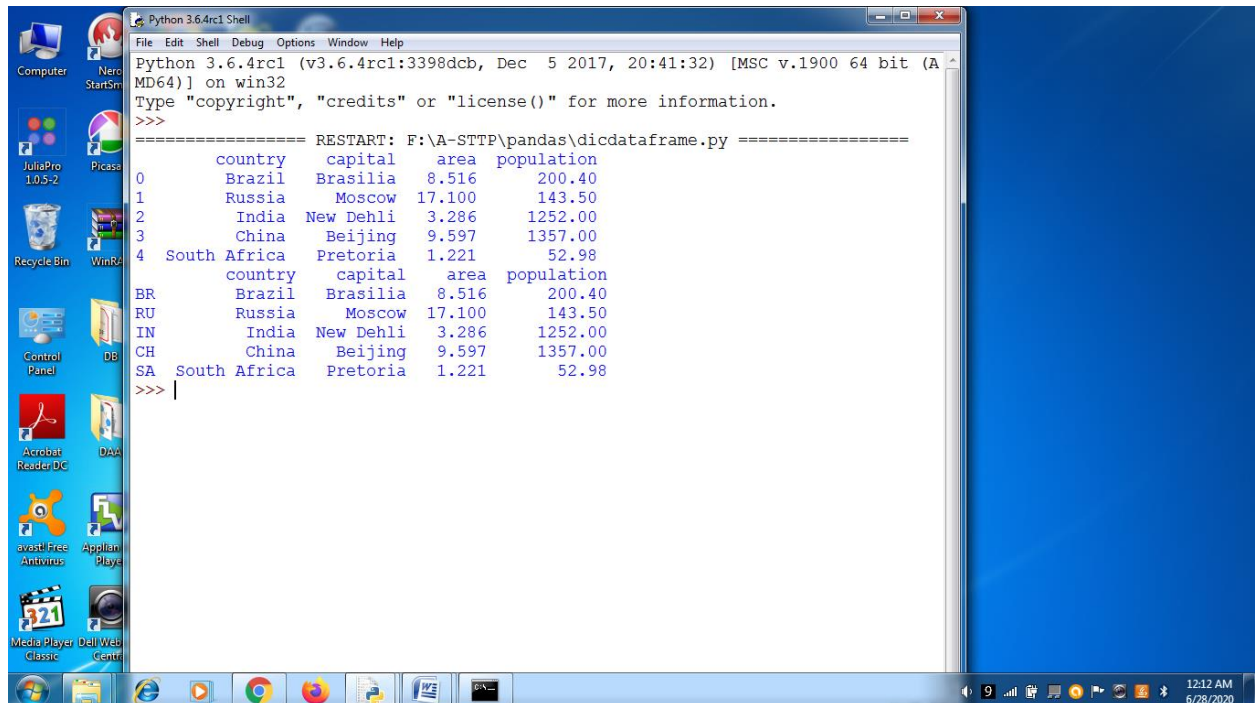
5. Output :



```
country    capital    area    population
0        Brazil    Brasilia    8.516        200.40
1        Russia     Moscow    17.100        143.50
2         India    New Dehli   3.286       1252.00
3         China     Beijing    9.597       1357.00
4    South Africa  Pretoria    1.221         52.98
         country    capital    area    population
BR        Brazil    Brasilia    8.516        200.40
RU        Russia     Moscow    17.100        143.50
IN         India    New Dehli   3.286       1252.00
CH         China     Beijing    9.597       1357.00
SA    South Africa  Pretoria    1.221         52.98
>>>
```