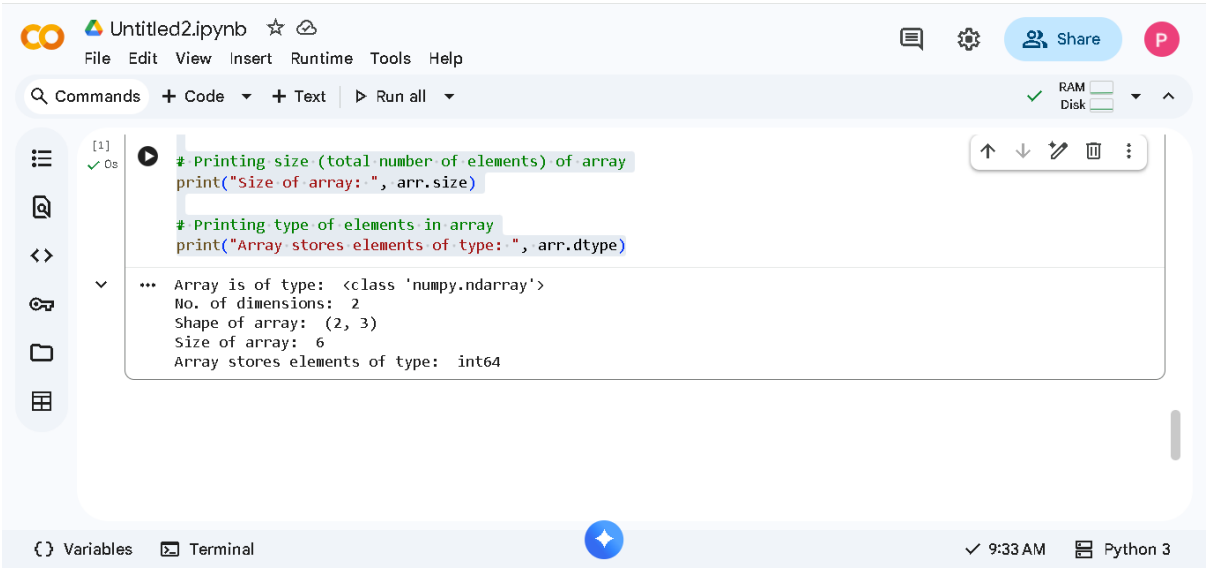
Practical-2: Implement Python Program for NumPy Arrays

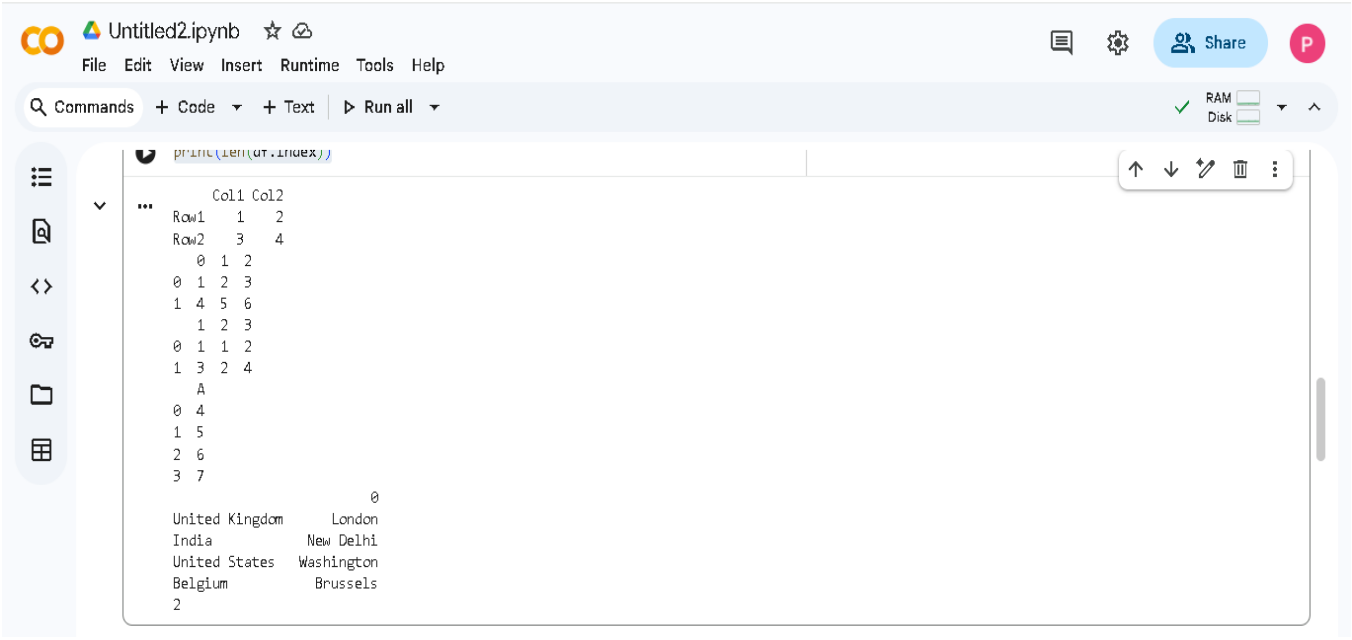
```
import numpy as np

# Creating array object
arr = np.array([[1, 2, 3],
                [4, 2, 5]])

# Printing type of arr object
print("Array is of type: ", type(arr))

# Printing array dimensions (axes)
print("No. of dimensions: ", arr.ndim)

# Printing shape of array
print("Shape of array: ", arr.shape)

# Printing size (total number of elements) of array
print("Size of array: ", arr.size)

# Printing type of elements in array
print("Array stores elements of type: ", arr.dtype)
```

Output:



Extra:

Practical-2.1: More about NumPy Arrays and data frames

```
import numpy as np
import pandas as pd
data = np.array([['','Col1','Col2'], ['Row1',1,2],
['Row2',3,4]])
print(pd.DataFrame(data=data[1:,1:],
index = data[1:,0], columns=data[0,1:]))
# Take a 2D array as input to your DataFrame
my_2darray = np.array([[1, 2, 3], [4, 5, 6]])
print(pd.DataFrame(my_2darray))
# Take a dictionary as input to your DataFrame
my_dict = {1: ['1', '3'], 2: ['1', '2'], 3: ['2', '4']}
print(pd.DataFrame(my_dict))
# Take a DataFrame as input to your DataFrame
my_df = pd.DataFrame(data=[4,5,6,7], index=range(0,4), columns=['A'])
print(pd.DataFrame(my_df))
# Take a Series as input to your DataFrame
my_series = pd.Series({"United Kingdom":"London", "India":"New Delhi",
"United States":"Washington", "Belgium":"Brussels"})
print(pd.DataFrame(my_series))
df = pd.DataFrame(np.array([[1, 2, 3], [4, 5, 6]]))
# Use the `shape` property print(df.shape)

# Or use the `len()` function with the `index` property
print(len(df.index))
```

Output: