

## Assignment -1

### Python Programming

Assignment Date	16 September 2022
Student Name	Sumathi .v
Student Roll Number	713119104019
Maximum Marks	2 Marks

## BASIC PYTHON

### 1.Split this string

```
#Split this string
s = "Hi there Sam!"
s.split()
```

### OUTPUT



The screenshot shows a Jupyter Notebook interface with a code cell containing the following Python code:

```
#Split this string
s = "Hi there Sam!"
s.split()
```

The output of the code cell is displayed below the code:

```
['Hi', 'there', 'Sam!']
```

### 2. Use. Format () to print the following string

Output should be:

**The diameter of earth is 12742 kilometres.**

```
planet = "Earth"
diameter = 12742
planet = "Earth"
diameter = 12742
print('The diameter of {} is {} kilometres.'.format(planet,diameter));
```

### OUTPUT



The screenshot shows a Jupyter Notebook interface with two code cells. The first code cell contains the following Python code:

```
[ ] import pandas as pd
import numpy as np
```

The second code cell contains the following Python code:

```
[1] planet = "Earth"
diameter = 12742

planet = "Earth"
diameter = 12742
print('The diameter of {} is {} kilometers.'.format(planet,diameter));
```

The output of the second code cell is displayed below the code:

```
The diameter of Earth is 12742 kilometers.
```

### 3. In this nest dictionary grab the word "hello"

```
d={'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
d={'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}  
print(d['k1'][3]["tricky"][3]['target'][3])
```

### OUTPUT



The screenshot shows a Jupyter Notebook titled 'Untitled2.ipynb'. The code cell contains the following Python code:

```
[ ] import pandas as pd  
import numpy as np  
  
[ ] d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

The output cell shows the result of the print statement:

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}  
print(d['k1'][3]["tricky"][3]['target'][3])  
  
hello
```

## 4.Numpy

### Create an array of 10 zeros?

#### 4.2 Create an array of 10 fives?

```
array=np.zeros(10)  
array
```

```
array=np.ones(10)*5  
array
```

### OUTPUT



The screenshot shows a Jupyter Notebook titled 'Untitled2.ipynb'. The code cell contains the following Python code:

```
[14] array=np.zeros(10)  
array  
  
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

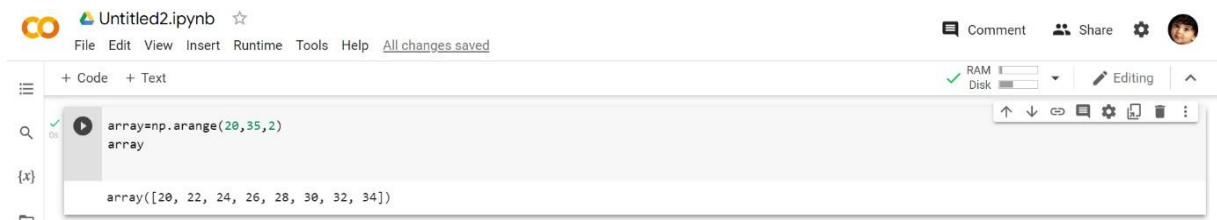
The output cell shows the result of the second code block:

```
[15] array=np.ones(10)*5  
array  
  
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

## 5. Create an array of all the even integers from 20 to 35

```
array=np.arange(20,35,2)
array
```

### OUTPUT

A screenshot of a Jupyter Notebook interface. The title bar shows 'Untitled2.ipynb' with a star icon. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', 'Help', and a link 'All changes saved'. The toolbar has icons for '+ Code', '+ Text', 'RAM', 'Disk', 'Editing', and a user profile. The code cell contains the following code:

```
array=np.arange(20,35,2)
array
```

The output cell shows the result:

```
array([20, 22, 24, 26, 28, 30, 32, 34])
```

## 6. Create a 3x3 matrix with values ranging from 0 to 8

```
matrix=np.arange(0,9).reshape(3,3)
matrix
```

### OUTPUT

A screenshot of a Jupyter Notebook interface. The title bar shows 'Untitled2.ipynb' with a star icon. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', 'Help', and a link 'All changes saved'. The toolbar has icons for '+ Code', '+ Text', 'RAM', 'Disk', 'Editing', and a user profile. The code cell contains the following code:

```
matrix=np.arange(0,9).reshape(3,3)
matrix
```

The output cell shows the result:

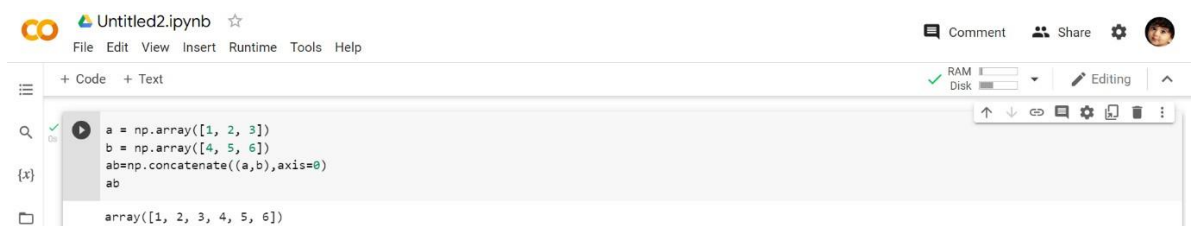
```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

## 7. Concatenate a and b

**a = np.array([1, 2, 3]), b = np.array([4, 5, 6])**

```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
ab=np.concatenate((a,b),axis=0)
ab
```

### OUTPUT

A screenshot of a Jupyter Notebook interface. The title bar shows 'Untitled2.ipynb' with a star icon. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', 'Help', and a link 'All changes saved'. The toolbar has icons for '+ Code', '+ Text', 'RAM', 'Disk', 'Editing', and a user profile. The code cell contains the following code:

```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
ab=np.concatenate((a,b),axis=0)
ab
```

The output cell shows the result:

```
array([1, 2, 3, 4, 5, 6])
```

# Pandas

## 8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
data = [['vb', 10], ['hari', 15], ['prasath', 14]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
df
```

### OUTPUT



The screenshot shows a Jupyter Notebook interface with a code cell containing the following Python code:

```
[ ] import pandas as pd

data = [['vb', 10], ['hari', 15], ['prasath', 14]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
df
```

Below the code cell, the output of the DataFrame is displayed as a table:

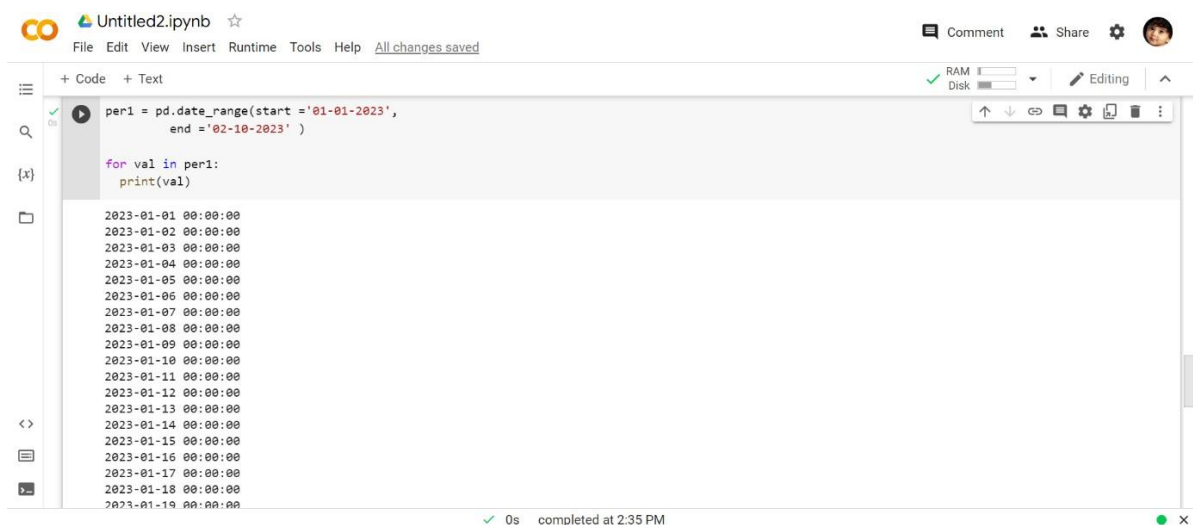
	Name	Age
0	vb	10
1	hari	15
2	prasath	14

## 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023

```
per1 = pd.date_range(start ='01-01-2023',
                      end ='02-10-2023' )
```

```
for val in per1:
    print(val)
```

### OUTPUT



The screenshot shows a Jupyter Notebook interface with a code cell containing the following Python code:

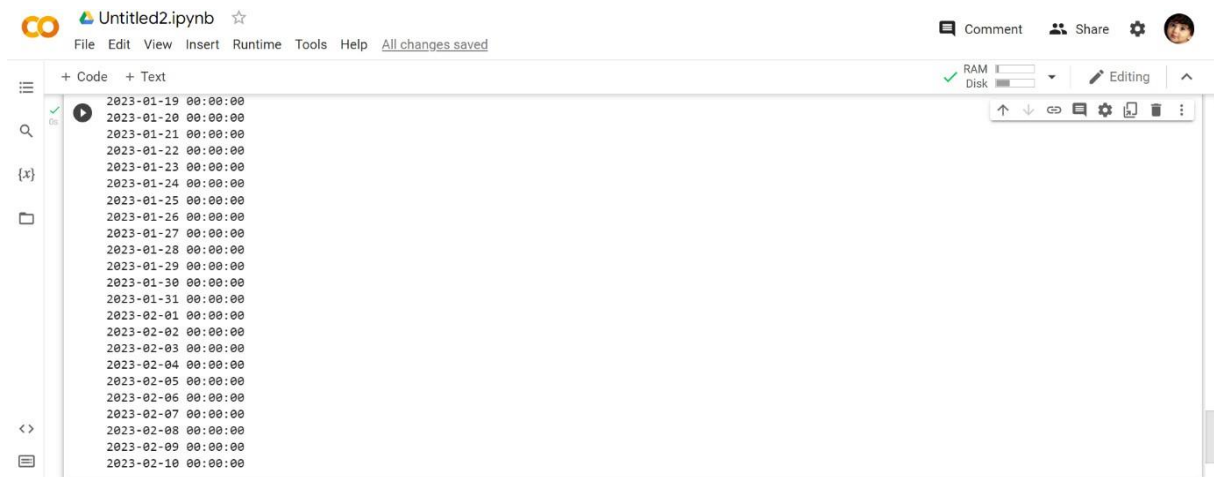
```
per1 = pd.date_range(start ='01-01-2023',
                      end ='02-10-2023' )

for val in per1:
    print(val)
```

Below the code cell, the output of the date range series is displayed as a list of timestamps:

```
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
```

The status bar at the bottom indicates "0s completed at 2:35 PM".



## 10. Create 2D list to DataFrame

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [35]:

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [58]:

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
# Create the pandas DataFrame
df = pd.DataFrame(lists, columns = ['s.no', 'name', 'Age'])

# print dataframe.
print(df )
```

## OUTPUT



