

## Assignment -1

### Python Programming

Assignment Date	16 September 2022
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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:

```
planet = "Earth"  
diameter = 12742
```

The second code cell contains the following Python code:

```
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
```

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

```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

The second code block is:

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

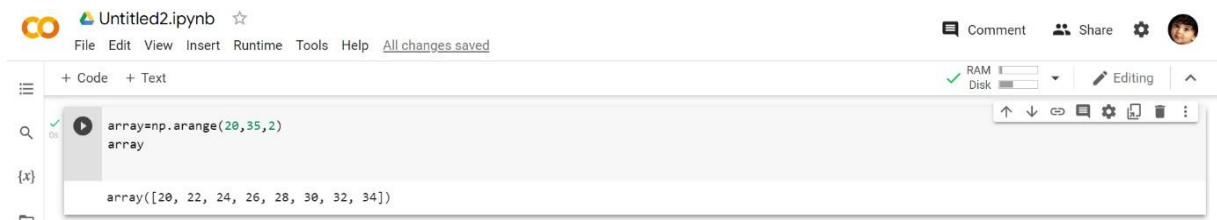
The output cell shows the result of the second code block:

```
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 says 'Untitled2.ipynb'. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help'. The toolbar shows 'RAM', 'Disk', and 'Editing' status. 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])
```

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

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 says 'Untitled2.ipynb'. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help'. The toolbar shows 'RAM', 'Disk', and 'Editing' status. 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]])
```

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

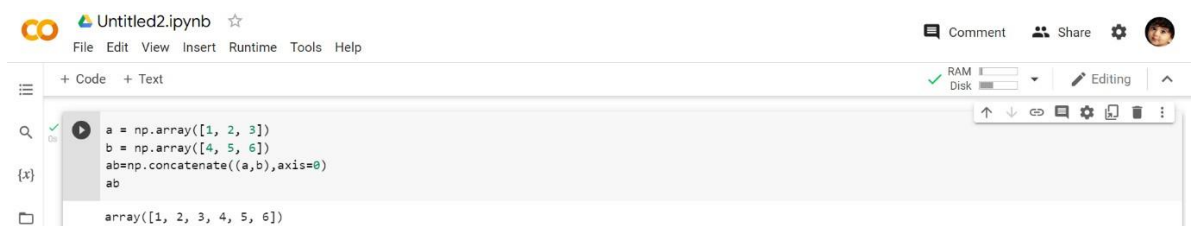
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

## 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 says 'Untitled2.ipynb'. The menu bar includes 'File', 'Edit', 'View', 'Insert', 'Runtime', 'Tools', and 'Help'. The toolbar shows 'RAM', 'Disk', and 'Editing' status. 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])
```

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

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:

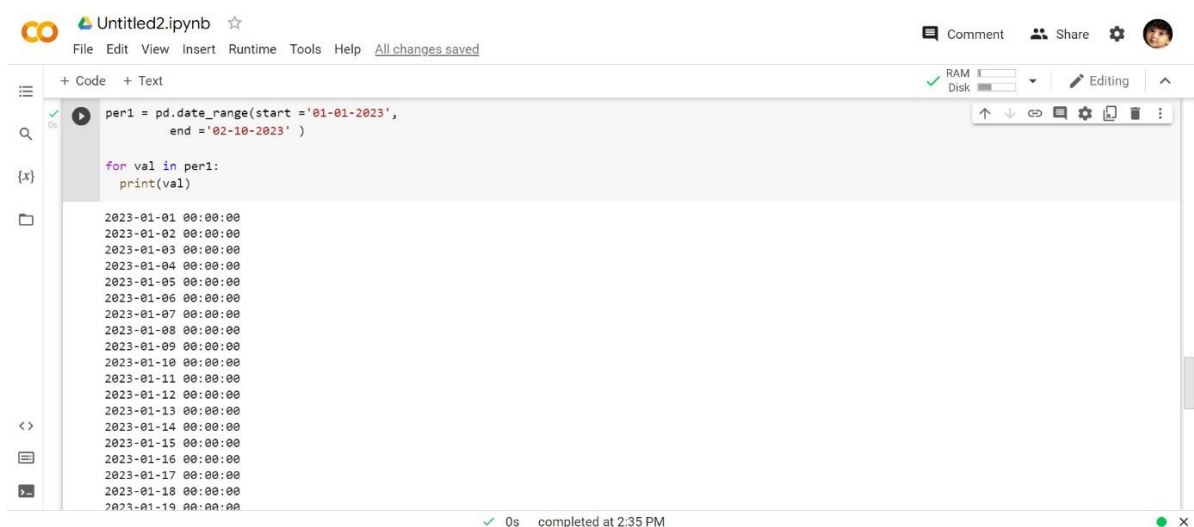
	Name	Age
0	vb	10
1	hari	15
2	prasath	14

## 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:

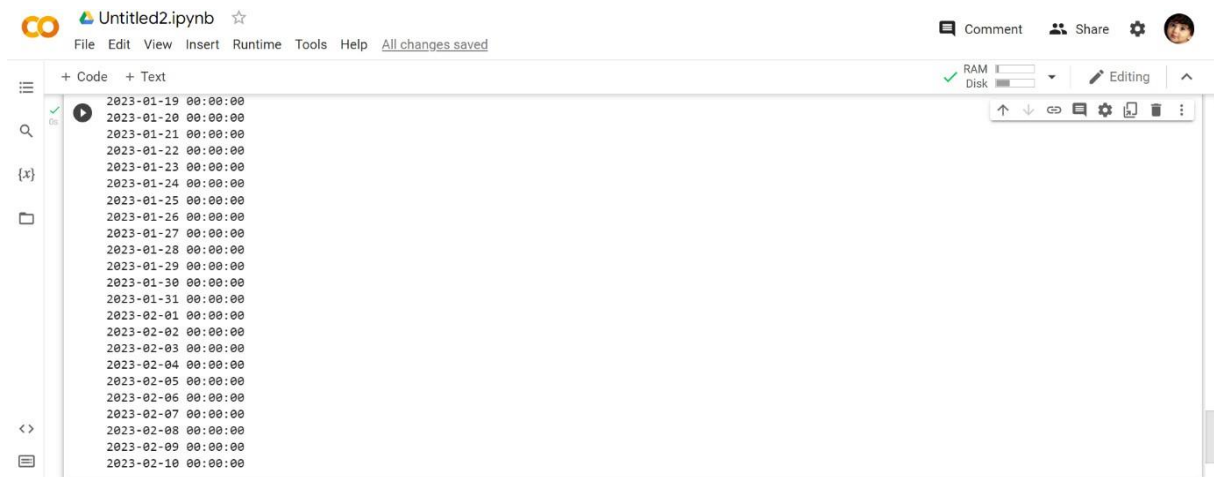
```
per1 = pd.date_range(start ='01-01-2023',
                    end ='02-10-2023' )

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



