

## Assignment -1

### Python Programming

Assignment Date	16 September 2022
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Student Roll Number	713119104019
Maximum Marks	2 Marks

## BASIC PYTHON

### 1.Split this string

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

#### OUTPUT

A screenshot of a Jupyter Notebook interface. The top bar shows 'Untitled0.ipynb' and various menu options like File, Edit, View, Insert, Runtime, Tools, and Help. Below the menu, there's a toolbar with icons for code, text, and other functions. The main area contains a code cell with the following Python code:

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

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

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

```
['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

A screenshot of a Jupyter Notebook interface. The top bar shows 'Untitled1.ipynb' and various menu options like File, Edit, View, Insert, Runtime, Tools, and Help. Below the menu, there's a toolbar with icons for code, text, and other functions. The main area contains three code cells. The first cell imports pandas and numpy. The second cell defines planet and diameter. The third cell prints the formatted string. The output of the third cell is displayed below the code cell: 

```
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 interface with a code cell containing 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 code cell is executed, and the output is displayed below it:

```
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

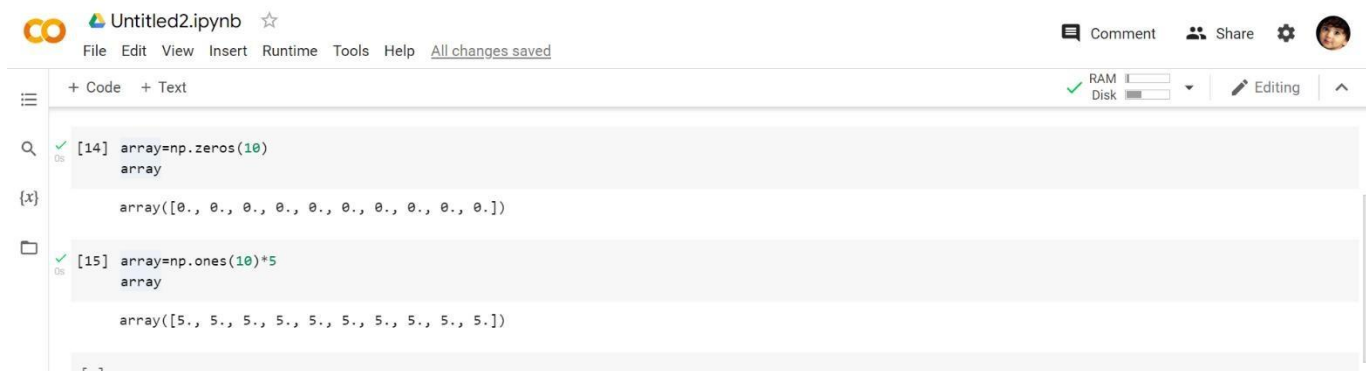
### 4.1 Create an array of 10 zeros?

### 4.2 Create an array of 10 fives?

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

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

#### OUTPUT



The screenshot shows a Jupyter Notebook interface with two code cells. The first cell contains the code for creating an array of 10 zeros:

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

The output of this cell is:

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

The second cell contains the code for creating an array of 10 fives:

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

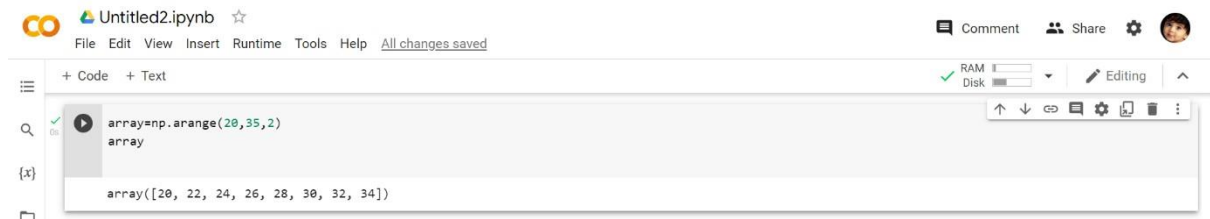
The output of this cell is:

```
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




The screenshot shows a Jupyter Notebook interface with a file named 'Untitled2.ipynb'. The code cell contains the following Python code: `array=np.arange(20,35,2)` followed by `array` on a new line. The output cell displays the resulting array: `array([20, 22, 24, 26, 28, 30, 32, 34])`. The interface includes a top menu bar with options like File, Edit, View, Insert, Runtime, Tools, and Help. On the right, there are icons for Comment, Share, and a user profile, along with RAM and Disk usage indicators.

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

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

### OUTPUT

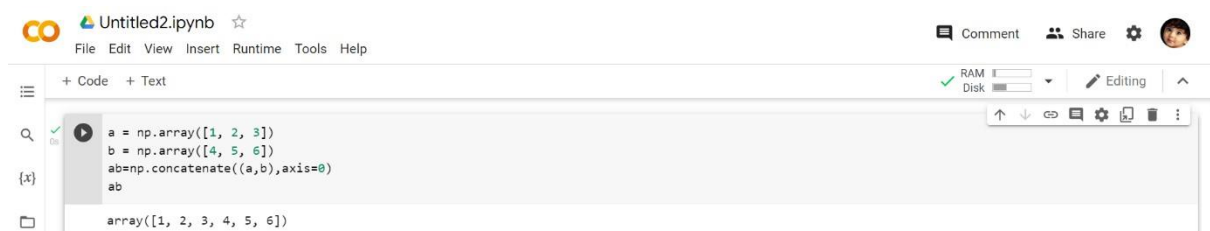


The screenshot shows a Jupyter Notebook interface with a file named 'Untitled2.ipynb'. The code cell contains the following Python code: `matrix=np.arange(0,9).reshape(3,3)` followed by `matrix` on a new line. The output cell displays the resulting 3x3 matrix: `array([[0, 1, 2], [3, 4, 5], [6, 7, 8]])`. The interface includes a top menu bar with options like File, Edit, View, Insert, Runtime, Tools, and Help. On the right, there are icons for Comment, Share, and a user profile, along with RAM and Disk usage indicators.

## 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



The screenshot shows a Jupyter Notebook interface with a file named 'Untitled2.ipynb'. The code cell contains the following Python code: `a = np.array([1, 2, 3])`, `b = np.array([4, 5, 6])`, `ab=np.concatenate((a,b),axis=0)`, followed by `ab` on a new line. The output cell displays the resulting concatenated array: `array([1, 2, 3, 4, 5, 6])`. The interface includes a top menu bar with options like File, Edit, View, Insert, Runtime, Tools, and Help. On the right, there are icons for Comment, Share, and a user profile, along with RAM and Disk usage indicators.

# 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 the following code and output:

```
[ ] import pandas as pd

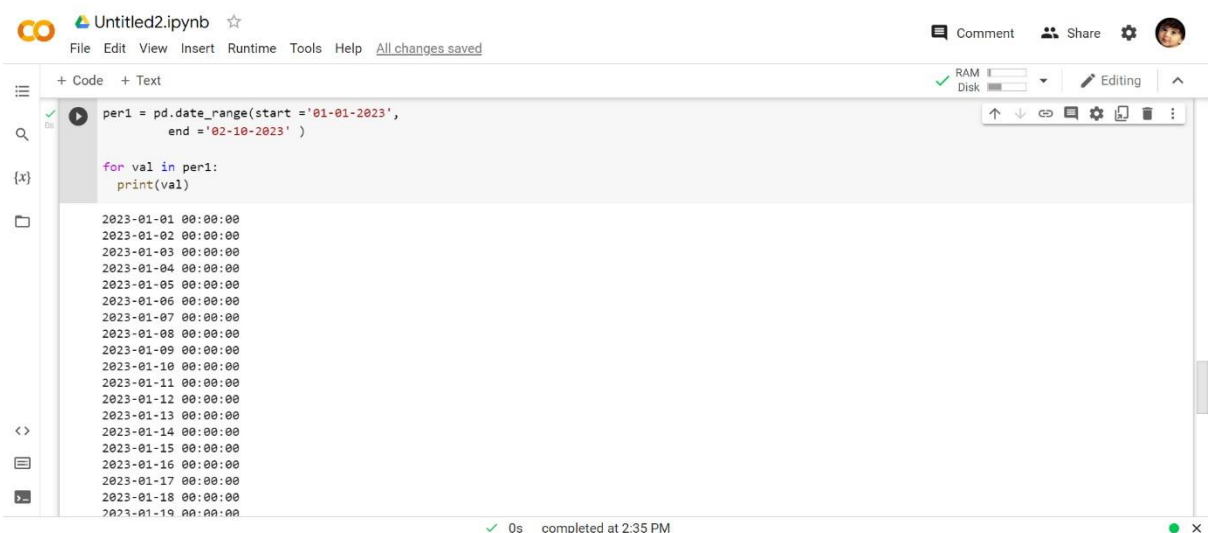
data = [['vb', 10], ['hari', 15], ['prasath', 14]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
df
```

	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



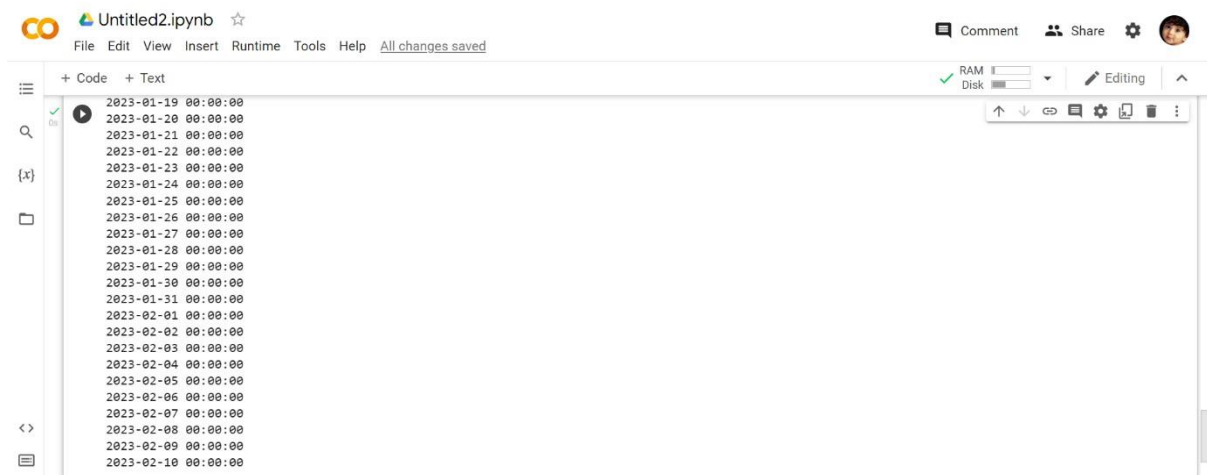
The screenshot shows a Jupyter Notebook interface with the following code and output:

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

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

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

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



