

Assignment -1

Python Programming

Assignment Date	19 September 2022
Student Name	VISHNU T
Student Roll Number	113119UG03119
Maximum Marks	2 Marks

The screenshot shows a Google Colab notebook interface. The browser tabs at the top include 'IBM-Project', 'IBM', 'Preparation', 'IBM-Project', '(no subject)', 'My Drive', 'code&tear', and 'Assignment'. The address bar shows the URL: colab.research.google.com/github/IBM-EPBL/IBM-Project-21769-1659791069/blob/main/Assignments/Vishnu%20T-Team%20Lead/Assignment_1.ipynb#s.... The notebook title is 'Assignment_1.ipynb'. The left sidebar shows a file explorer with 'Basic Python' and '1. Split this string'. The main code cell contains the following Python code:

```
[ ] s = "Hi there Sam!"

[ ] s = "Hi there Sam!"
    s = s.split()

    print(s)
```

The output of the code is: `['Hi', 'there', 'Sam!']`. Below the code cell, there is a task description: '2. Use .format() to print the following string. Output should be: The diameter of Earth is 12742 kilometers'.

The bottom status bar shows the system temperature as 78°F, rain, and the time as 10:59 AM on 11/11/2022.

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```
[ ]
```

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

2. Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

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

```
[ ] print("The diameter of the {} is {} kilometers.".format(planet , diameter))
```

The diameter of the Earth is 12742 kilometers.

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

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```
[ ] print("The diameter of the {} is {} kilometers.".format(planet , diameter))
```

The diameter of the 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])
```

hello

Numpy

```
[ ] import numpy as np
```

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4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
[ ] #4.1 Create an array of 10 zeros
array=np.zeros(10)
print("An array of 10 zeros:")
print(array)

An array of 10 zeros:
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
[ ] #4.2 Create an array of 10 fives
array=np.ones(10)*5
print("An array of 10 fives:")
print(array)

An array of 10 fives:
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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[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)
print("Array of all the even integers from 20 to 35")
print(array)

Array of all the even integers from 20 to 35
[20 22 24 26 28 30 32 34]
```

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

```
[ ] a = np.arange(0, 9).reshape(3,3)
print(a)

[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

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```
[ ] a = np.arange(0, 9).reshape(3,3)
print(a)

[[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]])
np.concatenate((a, b), axis=None)

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

Pandas

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Pandas

8. Create a dataframe with 3 rows and 2 columns

```
[ ] import pandas as pd

[ ] data = [450,260,370]

df = pd.DataFrame(data, columns='')

# print dataframe.
df
```

0	450
1	260
2	370

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

```
[ ] pd.date_range(start="2023-01-01",end="2023-02-10").tolist()

[Timestamp('2023-01-01 00:00:00', freq='D'),
 Timestamp('2023-01-02 00:00:00', freq='D'),
 Timestamp('2023-01-03 00:00:00', freq='D'),
 Timestamp('2023-01-04 00:00:00', freq='D'),
 Timestamp('2023-01-05 00:00:00', freq='D'),
 Timestamp('2023-01-06 00:00:00', freq='D'),
 Timestamp('2023-01-07 00:00:00', freq='D'),
 Timestamp('2023-01-08 00:00:00', freq='D'),
 Timestamp('2023-01-09 00:00:00', freq='D'),
 Timestamp('2023-01-10 00:00:00', freq='D'),
 Timestamp('2023-01-11 00:00:00', freq='D'),
 Timestamp('2023-01-12 00:00:00', freq='D'),
 Timestamp('2023-01-13 00:00:00', freq='D'),
 Timestamp('2023-01-14 00:00:00', freq='D'),
 Timestamp('2023-01-15 00:00:00', freq='D'),
 Timestamp('2023-01-16 00:00:00', freq='D'),
 Timestamp('2023-01-17 00:00:00', freq='D'),
 Timestamp('2023-01-18 00:00:00', freq='D'),
 Timestamp('2023-01-19 00:00:00', freq='D'),
 Timestamp('2023-01-20 00:00:00', freq='D'),
 Timestamp('2023-01-21 00:00:00', freq='D')]
```

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10. Create 2D list to DataFrame

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

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

[ ] df = pd.DataFrame(lists, columns = ['', '', ''])
print(df )

   0  1  2
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
```

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