Assignment 1

Assignment Date	13 September 2022
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Student Roll no.	510919106004
Maximum Marks	2 Marks

Basic Python

Question-1:

Split the string

s = "Hi there Sam!"

Solution:

```
string = "Hi there Sam!"
print(string.split())
```

Question-2:

Use .format() to print the following string.

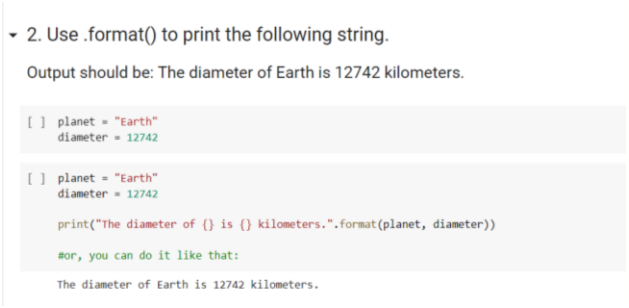
Output should be: The diameter of Earth is 12742 kilometers.

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

Solution:

```
planet = "Earth"
diameter = 12742

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

#or, you can do it like that:



Question-3:

In this nest dictionary grab the word "hello"

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

Solution:

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

NumPy

Question-4:

```
import numpy as np
```

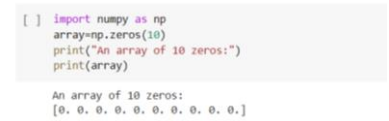
4.1 Create an array of 10 zeros?

Solution:

```
import numpy as np
array=np.zeros(10)
print("An array of 10 zeros:")
print(array)
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

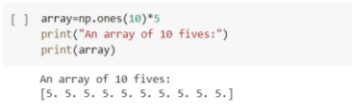


```
[ ] import numpy as np
    array=np.zeros(10)
    print("An array of 10 zeros:")
    print(array)

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

4.2 Create an array of 10 fives?

Solution:

```
array=np.ones(10)*5
print("An array of 10 fives:")
print(array)
```



```
[ ] 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.]
```

Question-5:

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

Solution:

```
import numpy as np
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

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

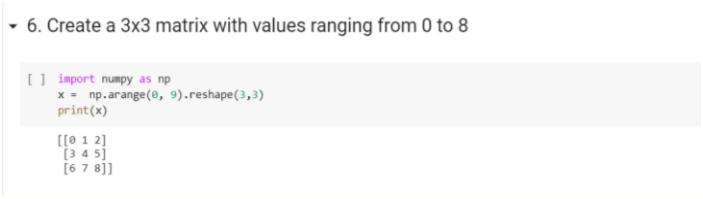
```
[ ] import numpy as np
    array=np.arange(20,35,2)
    print("Array of all the even integers from 20 to 35")
    print(array)

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

Question-6:

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

Solution:

```
import numpy as np
x =  np.arange(0, 9).reshape(3,3)
print(x)
```

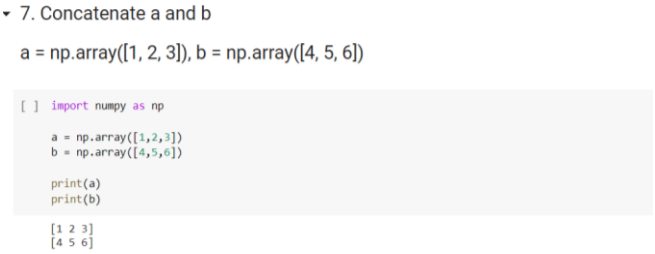


Question-7:

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

Solution:

```
import numpy as np

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

print(a)
print(b)
```



Pandas

Question-8:

Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

Solution:

```
# Import pandas library

import pandas as pd


# initialize list of lists

data = [['dhoni', 41], ['kohli', 34], ['rohit',35 ]]


# Create the pandas DataFrame

df = pd.DataFrame(data, columns=['Name', 'Age'])


# print dataframe.
df
```

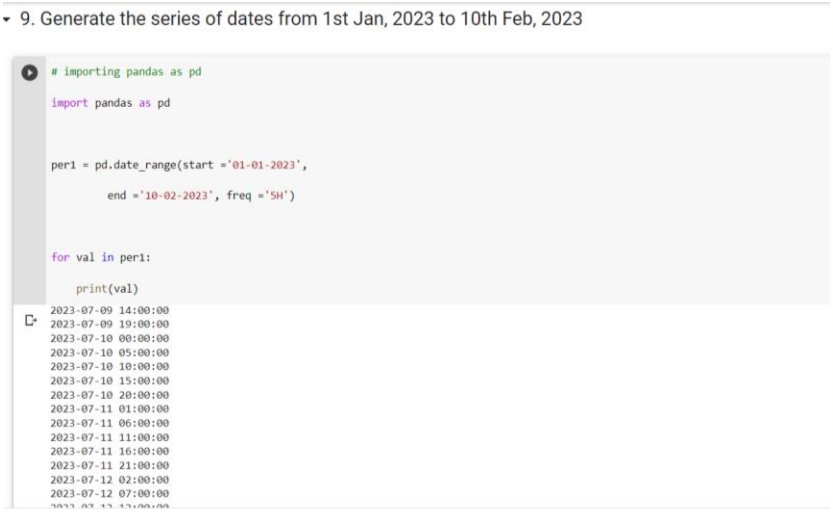
Question-9:

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

Solution:

```
# importing pandas as pd

import pandas as pd


per1 = pd.date_range(start ='01-01-2023',
```

```
        end ='10-02-2023', freq ='5H')

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



Question-10:

Create 2D list to DataFrame

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

Solution:

```
# Import pandas library

import pandas as pd

# initialize list of lists

data = [['aaa', 22], ['bbb', 25], ['ccc', 24]]

# Create the pandas DataFrame
```

```
df = pd.DataFrame(data, columns = ['Name', 'Age'])

# print dataframe.

print(df )
```

10. Create 2D list to DataFrame

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

Double-click (or enter) to edit

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

```
# Import pandas library
import pandas as pd
# initialize list of lists
data = [['aaa', 22], ['bbb', 25], ['ccc', 24]]
# Create the pandas DataFrame
df = pd.DataFrame(data, columns = ['Name', 'Age'])
# print dataframe.
print(df )
```

```
  Name  Age
0  aaa   22
1  bbb   25
2  ccc   24
```