ASSIGNMENT -1

DATA VISUALIZATION AND DATA PRE-PROCESSING

Assignment Date	8 September 2022
Student Name	Logeshkumar R
Student Roll Number	727719EUCS074
Maximum Marks	2 Marks

Question-1:

Split the string

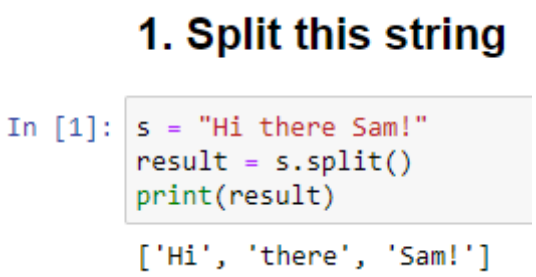
X = " Hi there Sam!"

Solution:

```
s = "Hi there Sam!"

x = s.split()

print(x)
```



Question-2:

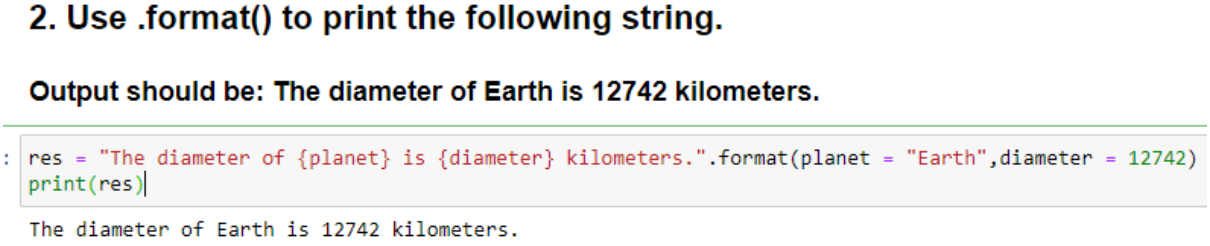
Use .format() to print the following string.

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

Solution:

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

print(res)
```



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])
```

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

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

```
hello
```

Question-4:

4.1 Create an array of 10 zeros?

Solution:

```
import numpy as np

a1 = np.arange(20,35,2)

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

print(a1)
```

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

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

4.2 Create an array of 10 fives?

Solution:

```
import numpy as np

arr2=np.ones(10)*5

print("An array of 10 fives:")
```

print(arr2)

```
import numpy as np
arr2=np.ones(10)*5
print("An array of 10 fives:")
print(arr2)
```

```
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

a1 = np.arange(20,35,2)

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

print(a1)

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

```
import numpy as np
a1 = np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(a1)
```

```
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

abc = np.arange(0, 9).reshape(3,3)

print(abc)

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

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

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

Question-7:

Concatenate a and b

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

Solution:

```
import numpy as np

x = np.array([1, 2, 3])

y = np.array([4, 5, 6])

z = np.concatenate((x,y),axis=0)

print(z)
```

7. Concatenate a and b

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

```
: import numpy as np
  x = np.array([1, 2, 3])
  y = np.array([4, 5, 6])
  z = np.concatenate((x,y),axis=0)
  print(z)
```

```
[1 2 3 4 5 6]
```

Question-8:

Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd

data = [['Logesh', 21], ['Ravi', 57], ['Akshayaa', 21]]
```

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

print(df)
```

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
data = [['Logesh', 21], ['Ravi', 57], ['Akshayaa', 21]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
print(df)
```

```
       Name  Age
0    Logesh   21
1      Ravi   57
2  Akshayaa   21
```

Question-9:

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

Solution:

```
from datetime import date, timedelta

start_date = date(2023, 1, 1)

end_date = date(2023, 2, 10)

delta = end_date - start_date

for i in range(delta.days + 1):

   day = start_date + timedelta(days=i)

   print(day)
```

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

```
from datetime import date, timedelta

start_date = date(2023, 1, 1)
end_date = date(2023, 2, 10)

delta = end_date - start_date

for i in range(delta.days + 1):
    day = start_date + timedelta(days=i)
    print(day)
```

```
2023-01-01
2023-01-02
2023-01-03
2023-01-04
2023-01-05
2023-01-06
2023-01-07
2023-01-08
2023-01-09
2023-01-10
2023-01-11
2023-01-12
2023-01-13
2023-01-14
2023-01-15
2023-01-16
2023-01-17
2023-01-18
2023-01-19
2023-01-20
2023-01-21
2023-01-22
2023-01-23
2023-01-24
2023-01-25
2023-01-26
2023-01-27
2023-01-28
2023-01-29
2023-01-30
2023-01-31
2023-02-01
2023-02-02
2023-02-03
2023-02-04
2023-02-05
2023-02-06
2023-02-07
2023-02-08
2023-02-09
2023-02-10
```

Question-10:

Create 2D list to DataFrame

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

Solution:

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
dataframe1 = pd.DataFrame(lists,columns=['Serial No','Name','Age'])
print(dataframe1)
```

10. Create 2D list to DataFrame

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

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
dataframe1 = pd.DataFrame(lists,columns=['Serial No','Name','Age'])
print(dataframe1)
```

```
   Serial No Name  Age
0          1  aaa   22
1          2  bbb   25
2          3  ccc   24
```