ASSIGNMENT -1
DATA VISUALIZATION AND DATA PRE-PROCESSING

Assignment Date	8 September 2022
Student Name	Mohana Sowdesh R
Student Roll Number	727719EUCS091
Maximum Marks	2 Marks

Question-1:

Split the string

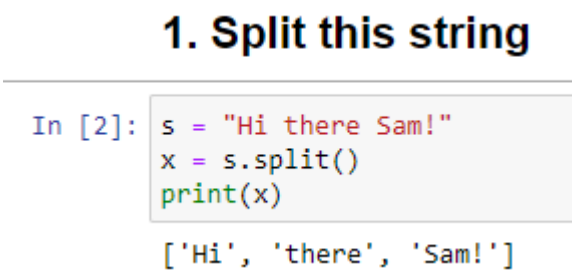
X = " Hi there Sam!"

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:

```
planet = "Earth"

diameter = 12742

txt = "The diameter of {0} is {1} kilometers.".format(planet,diameter)

print(txt)
```

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

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

```
In [6]: planet = "Earth"
        diameter = 12742
        txt = "The diameter of {0} is {1} kilometers.".format(planet,diameter)
        print(txt)

        The diameter of Earth is 12742 kilometers.
```

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:

print(d['k1'][3]['tricky'][3]['target'][

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

```
In [9]: 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

arr=np.zeros(10)

print("An array of 10 zeros:")

print(arr)

```
In [11]: 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)
```

```
In [13]: 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
b_arr=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(b_arr)
```

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

```
In [15]: import numpy as np
         b_arr=np.arange(20,35,2)
         print("Array of all the even integers from 20 to 35")
         print(b_arr)

         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

d3_arr =  np.arange(0, 9).reshape(3,3)

print(d3_arr)
```

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

```
In [21]: import numpy as np
         d3_arr =  np.arange(0, 9).reshape(3,3)
         print(d3_arr)

         [[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

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

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

res = np.concatenate((a,b),axis=0)

print(res)
```

7. Concatenate a and b

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

```
In [22]: import numpy as np
         a = np.array([1, 2, 3])
         b = np.array([4, 5, 6])
         res = np.concatenate((a,b),axis=0)
         print(res)

         [1 2 3 4 5 6]
```

Question-8:

Create a dataframe with 3 rows and 2 columns

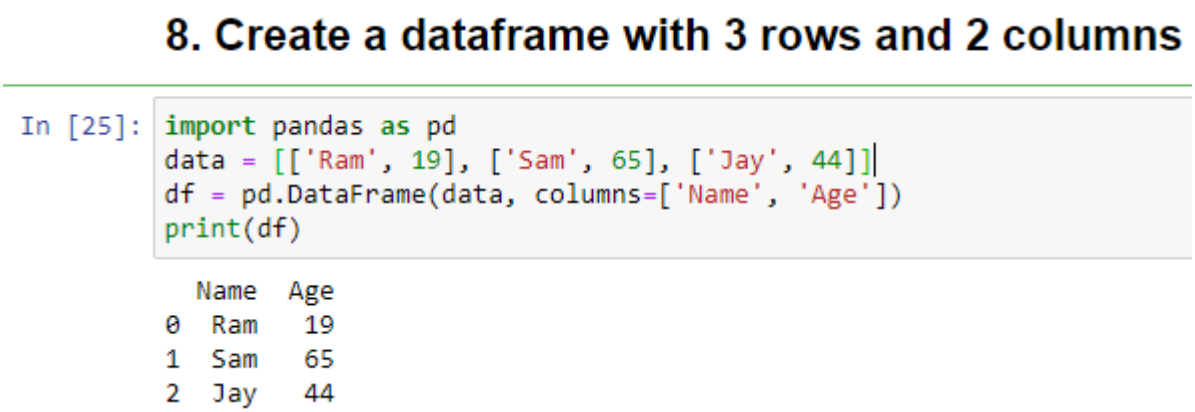
Solution:

```
import pandas as pd

data = [['Ram', 19], ['Sam', 65], ['Jay', 44]]

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

print(df)
```



Question-9:

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

Solution:

```
from datetime import date, timedelta

sdate = date(2023, 1, 1)

edate = date(2023, 2, 10)

delta = edate - sdate

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

    day = sdate + timedelta(days=i)

    print(day)
```

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

In [29]:
```
from datetime import date, timedelta

sdate = date(2023, 1, 1)
edate = date(2023, 2, 10)

delta = edate - sdate

for i in range(delta.days + 1):
    day = sdate + 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]]

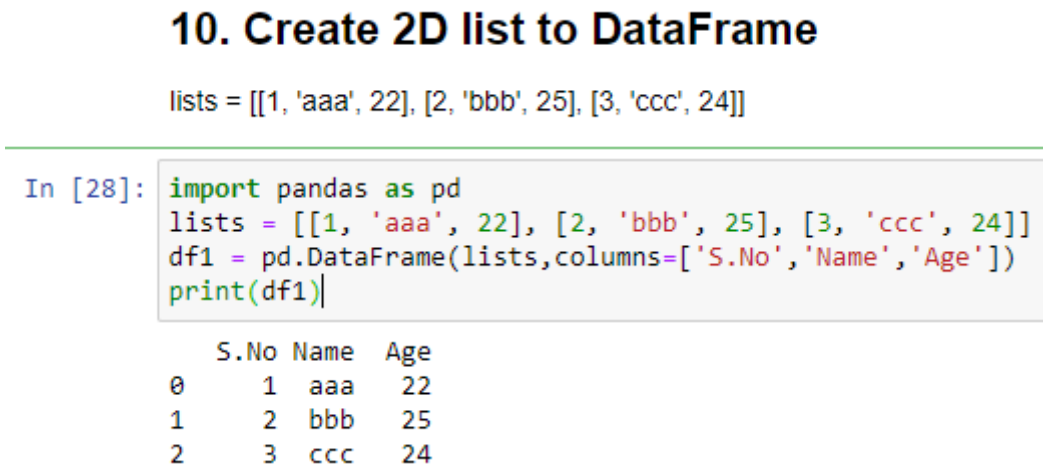
Solution:

```
import pandas as pd

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

df1 = pd.DataFrame(lists,columns=['S.No','Name','Age'])

print(df1)
```



10. Create 2D list to DataFrame

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

In [28]:

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df1 = pd.DataFrame(lists,columns=['S.No','Name','Age'])
print(df1)
```

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