ASSIGNMENT -1

DATA VISUALIZATION AND DATA PRE-PROCESSING

Assignment Date	8 September 2022
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Maximum Marks	2 Marks

Question-1:

Split the string

X = " Hi there Sam!"

Solution:

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

1. Split this string

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

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

Question-2:

Use .format() to print the following string.

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

Solution:

```
planet = "Earth"
diameter = 12742


t="The diameter of Earth is {} kilometers".format(12742)
print(t)
```

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

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

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

```
t="The diameter of Earth is {} kilometers".format(12742)
print(t)
```

```
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:

```
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?

4.2 Create an array of 10 fives?

Solution:

```
import numpy as np
arr=np.zeros(10,dtype=int)
print(arr)
```

```
import numpy as np
arr=np.zeros(10,dtype=int)
print(arr)
```

```
[0 0 0 0 0 0 0 0 0 0]
```

```
import numpy as np
arr=np.ones(10,dtype=int)*5
print(arr)
```

```
import numpy as np
arr=np.ones(10,dtype=int)*5
print(arr)
```

```
[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
arr=np.arange(20,35,2)
print(arr)
```

```
import numpy as np
arr=np.arange(20,35,2)
print(arr)
```

```
[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)
```

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

```
[[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])
c=np.concatenate((a,b))
print(c)
```

```
import numpy as np
a=np.array([1,2,3])
b=np.array([4,5,6])
c=np.concatenate((a,b))
print(c)
```

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

Question-8:

Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd
data = {'Name':['Tom', 'nick', 'krish'], 'Age':[20, 21, 19]}

df = pd.DataFrame(data)
print(df)
```

```
import pandas as pd
data = {'Name':['Tom', 'nick', 'krish'], 'Age':[20, 21, 19]}

df = pd.DataFrame(data)
print(df)
```

```
    Name  Age
0    Tom   20
1   nick   21
2  krish   19
```

Question-9:

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

Solution:

```
import pandas as pd

per1 = pd.date_range('1-1-2023','10-2-2023')
print(per1)
```

```
import pandas as pd

per1 = pd.date_range('1-1-2023','10-2-2023')
print(per1)
```

```
DatetimeIndex(['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',
               ...
               '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
               '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
               '2023-10-01', '2023-10-02'],
              dtype='datetime64[ns]', length=275, freq='D')
```

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]]

df = pd.DataFrame (lists, columns = ['index', 'name','age'])
print (df)
```

```
import pandas as pd

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

df = pd.DataFrame (lists, columns = ['index', 'name','age'])
print (df)
```

```
   index name  age
0      1  aaa   22
1      2  bbb   25
2      3  ccc   24
```