Assignment -1

Python Programming

Assignment Date	19 September 2022
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Maximum Marks	2 Marks

Basic Python

1. Split this string

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

In [ ]:
```
s = "Hi there Sam!"
s=s.split()
print(s)
```

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

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

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

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

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

```
The diameter of Earth is 12742 kilometers
```

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

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

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

```
hello
```

Numpy

In [ ]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [ ]:
```
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.]
```

In [ ]:
```
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.]
```

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

In [ ]:
```
np.arange(0,9).reshape((3,3))
```

Out[ ]:
```
array([[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])

In [ ]:
```
arr=np.array([[1,2,3],[4,5,6]]  )
print(arr)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [ ]:
```
import pandas as pd
```

In [ ]:
```
a=[['keerthana',20],['Maya',25],['Roszhan',30]]
df = pd.DataFrame(a)
df
```

Out[ ]:

	0	1
0	keerthana	20
1	Maya	25
2	Roszhan	30

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

In [ ]:
```
import pandas as pd
import datetime
test_date = datetime.datetime.strptime("01-1-2023", "%d-%m-%Y")
k=41
date_gen=pd.date_range(test_date , periods=k)
print(date_gen.strftime("%d-%m-%Y"))
```

```
Index(['01-01-2023', '02-01-2023', '03-01-2023', '04-01-2023', '05-01-2023',
       '06-01-2023', '07-01-2023', '08-01-2023', '09-01-2023', '10-01-2023',
       '11-01-2023', '12-01-2023', '13-01-2023', '14-01-2023', '15-01-2023',
       '16-01-2023', '17-01-2023', '18-01-2023', '19-01-2023', '20-01-2023',
       '21-01-2023', '22-01-2023', '23-01-2023', '24-01-2023', '25-01-2023',
       '26-01-2023', '27-01-2023', '28-01-2023', '29-01-2023', '30-01-2023',
       '31-01-2023', '01-02-2023', '02-02-2023', '03-02-2023', '04-02-2023',
       '05-02-2023', '06-02-2023', '07-02-2023', '08-02-2023', '09-02-2023',
       '10-02-2023'],
      dtype='object')
```

10. Create 2D list to DataFrame

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

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

In [ ]:
```
data = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df=pd.DataFrame(data,columns=['Category','Name','Marks'])
print(df)
```

```
   Category Name  Marks
0         1  aaa     22
1         2  bbb     25
2         3  ccc     24
```