Assignment 1

Python Programming

Assignment Date	07 November 2022
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Maximum Marks	2

1. Slip the String `s =`

```
"Hi there Sam";
s=s.split() print(s);
['Hi', 'there', 'Sam']
```

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

```
plant = "Earth" diameter = 12742
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" `d`

```
=
{'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello
']}]}]} lst =
[1,2,[3,4],[5,[100,200,['hello']],23,11],1,7] a=lst[3][1][2];
print(a)
['hello']
```

Numpy

```
import numpy as np
```

4.1 Create an array of 10 zeros?

```
import numpy as np
array=np.zeros(10)
print("An array of 10zero")
An array of 10zero
print(array)
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

4.2 Create an array of 10 fives?

```
import numpy as np
array = np.ones(10)*5
print("An array of 10 five")
An array of 10 five
print(array)
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

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

```
import numpy as np
x = np.arange(0, 9).reshape(3,3)
print(x)
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

7. Concatinate a and b

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

```
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]
```

Pandas `import`

```
pandas as pd
```

8. Create a dataframe with 3 rows and 2 columns

```
data = [['TOM', 20], ['NICK', 21], ['KRISH', 14], ['JACK', 18]] df =

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

```
    Name  Age
0    TOM   20
1    NICK   21
2    KRISH   14
3    JACK   18
```

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

```
import pandas as pd
dRan1 = pd.date_range(start ='1-1-2023', periods = 41) print(dRan1)
```

```
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', '2023-01-11', '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'],
```

```
               dtype='datetime64[ns]', freq='D')
```

10. Create 2D list to DataFrame

```
import pandas as pd import numpy as np lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3,
'ccc', 24]]
list= {'name':['aaa', 'bbb', 'ccc'],
'points':[22,25,24]}          df           =
pd.DataFrame(list,index=['1','2','3']) df
  name  points 1
aaa      22  2
bbb      25
3 ccc      24
```