Assignment -1

Python Programming

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Maximum Marks	2 Marks

1. Split this string

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

Output

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

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

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

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

Output

```
'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']}
]}]}

d['k1'][3]['tricky'][3]['target'][3]
```

Output

```
'hello'
```

Numpy

```
import numpy as np
```

4.1 Create an array of 10 zeros?

```
array=np.zeros(10)
array
```

Output

```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

4.2 Create an array of 10 fives?

```
array=np.ones(10)*5
array
```

Output

```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

```
print(np.arange(20,35,2))
```

Output

```
[20 22 24 26 28 30 32 34]
```

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

```
np.arange(0,9).reshape((3,3))
```

Output

```
array([[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])

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

Output

```
array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
import numpy as np


a=np.random.randint(10,size=(3,2))
print(a)
```

Output

```
[[8 5]
 [7 4]
 [7 1]]
```

Input

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

Output

```
   0  1
0  8  5
1  7  4
2  7  1
```

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

```
import datetime
import pandas as pd
start = datetime.datetime.strptime("01-01-2023","%d-%m-%Y")
date_generated = pd.date_range(start, periods=41)
print(date_generated.strftime("%d-%m-%Y"))
```

Output

```
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]]


df = pd.DataFrame(lists, columns =['S.no', 'text','value'])
df
```

Output

	S.no	text	value
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24