Assignment -1

Python Programming

Assignment Date	19 September 2022
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Maximum Marks	2 Marks

Assignment_1.ipynb

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```
['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
```

```
print("The diameter of the {} is {} kilometers.".format(planet , diameter))
```

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

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

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```
print("The diameter of the {} is {} kilometers.".format(planet , diameter))
```

```
The diameter of the 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':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

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

```
hello
```

Numpy

```
import numpy as np
```

▼ 4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
#4.1 Create an array of 10 zeros
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.]
```

```
#4.2 Create an array of 10 fives
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.]
```

```
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

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

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

```
a =  np.arange(0, 9).reshape(3,3)
print(a)
```

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

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```
[ ]  a =  np.arange(0, 9).reshape(3,3)
     print(a)

     [[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])

```
[ ]  a = np.array([[1, 2, 3]])
     b = np.array([[4, 5, 6]])
     np.concatenate((a, b), axis=None)

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

▾ Pandas

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▾ Pandas

▾ 8. Create a dataframe with 3 rows and 2 columns

```
[ ]  import pandas as pd
```

```
[ ]  data = [450,260,370]

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

     # print dataframe.
     df
```

	0
0	450
1	260
2	370

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

```python
pd.date_range(start="2023-01-01",end="2023-02-10").tolist()
```

```
[Timestamp('2023-01-01 00:00:00', freq='D'),
 Timestamp('2023-01-02 00:00:00', freq='D'),
 Timestamp('2023-01-03 00:00:00', freq='D'),
 Timestamp('2023-01-04 00:00:00', freq='D'),
 Timestamp('2023-01-05 00:00:00', freq='D'),
 Timestamp('2023-01-06 00:00:00', freq='D'),
 Timestamp('2023-01-07 00:00:00', freq='D'),
 Timestamp('2023-01-08 00:00:00', freq='D'),
 Timestamp('2023-01-09 00:00:00', freq='D'),
 Timestamp('2023-01-10 00:00:00', freq='D'),
 Timestamp('2023-01-11 00:00:00', freq='D'),
 Timestamp('2023-01-12 00:00:00', freq='D'),
 Timestamp('2023-01-13 00:00:00', freq='D'),
 Timestamp('2023-01-14 00:00:00', freq='D'),
 Timestamp('2023-01-15 00:00:00', freq='D'),
 Timestamp('2023-01-16 00:00:00', freq='D'),
 Timestamp('2023-01-17 00:00:00', freq='D'),
 Timestamp('2023-01-18 00:00:00', freq='D'),
 Timestamp('2023-01-19 00:00:00', freq='D'),
 Timestamp('2023-01-20 00:00:00', freq='D'),
 Timestamp('2023-01-21 00:00:00', freq='D'),
```

```
 Timestamp('2023-02-05 00:00:00', freq='D'),
 Timestamp('2023-02-06 00:00:00', freq='D'),
 Timestamp('2023-02-07 00:00:00', freq='D'),
 Timestamp('2023-02-08 00:00:00', freq='D'),
 Timestamp('2023-02-09 00:00:00', freq='D'),
 Timestamp('2023-02-10 00:00:00', freq='D')]
```

10. Create 2D list to DataFrame

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

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

```python
df = pd.DataFrame(lists, columns = ['', '',''])
print(df )
```

```
   0  1  aaa  22
   1  2  bbb  25
   2  3  ccc  24
```