Assignment -1
Python Programming

Assignment Date	19 September 2022
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Student Roll Number	953719104031
Maximum Marks	2 Marks

QUESTION 1:

Split the string

```
s = "Hi there Sam!"
```

SOLUTION:

```
s = "Hi there Sam!"

x = s.split()

print(x)
```

RESULTS:

```
s = "Hi there Sam!"



s = "Hi there Sam!"

x = s.split()

print(x)


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

QUESTION 2 :

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

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

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

SOLUTION:

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

RESULTS:

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

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

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

QUESTION 3:

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

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

SOLUTION:

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

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

RESULTS:

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

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

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:

```python
import numpy as np
np.zeros(10)
import numpy as np
np.ones(10) * 5
```

RESULTS:

```python
import numpy as np
np.zeros(10)
```

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

```python
import numpy as np
np.ones(10) * 5
```

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

QUESTION 5:

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

SOLUTION:

```python
import numpy as np
np.arange(20,36,2)
```

RESULTS:

```python
import numpy as np
np.arange(20,36,2)
```

```
array([20, 22, 24, 26, 28, 30, 32, 34])
```

QUESTION 6:

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

SOLUTION:

```python
import numpy as np
np.arange(0,9).reshape(3,3)
```

RESULTS:

```python
import numpy as np
np.arange(0,9).reshape(3,3)
```

```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

QUESTION 7:

7. Concatenate a and b

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

SOLUTION:

```python
import numpy as np

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

np.concatenate((a , b), axis = 0)
```

RESULTS:

```python
import numpy as np

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

np.concatenate((a , b), axis = 0)
```

```
array([1, 2, 3, 4, 5, 6])
```
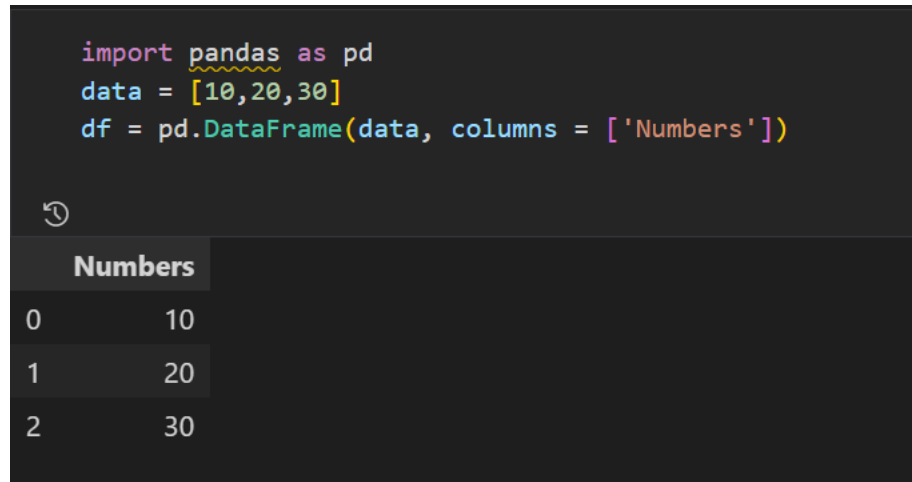
QUESTION 8:

8. Create a dataframe with 3 rows and 2 columns

```python
import pandas as pd
data = [10,20,30]
df = pd.DataFrame(data, columns = ['Numbers'])
```

RESULTS:

```python
import pandas as pd
data = [10,20,30]
df = pd.DataFrame(data, columns = ['Numbers'])
```

	Numbers
0	10
1	20
2	30

QUESTION 9:

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

SOLUTION:

```python
import pandas as pd
dates =  pd.date_range('1st Jan,2023', periods = 41)
s = pd.Series(dates)
print(s)
```

RESULT:

```
0     2023-01-01
1     2023-01-02
2     2023-01-03
3     2023-01-04
4     2023-01-05
5     2023-01-06
6     2023-01-07
7     2023-01-08
8     2023-01-09
9     2023-01-10
10    2023-01-11
11    2023-01-12
12    2023-01-13
13    2023-01-14
14    2023-01-15
15    2023-01-16
16    2023-01-17
17    2023-01-18
18    2023-01-19
19    2023-01-20
20    2023-01-21
21    2023-01-22
```

```
22    2023-01-23
23    2023-01-24
24    2023-01-25
...
38    2023-02-08
39    2023-02-09
40    2023-02-10
dtype: datetime64[ns]
```

QUESTION 10:

10. Create 2D list to DataFrame

lists = [[1, 'aaa', 22],

      [2, 'bbb', 25],

      [3, 'ccc', 24]]

SOLUTION:

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

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

RESULT:

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists)
print(df)

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