Assignment -1

Python Programming

Assignment Date	19 September 2022
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Question-1:

1. Split this string

Solution:

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

Basic Python

1. Split this string

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

In [ ]:
```
print(s.split())
```

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

Question-2:

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

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

Solution:

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

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

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

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

In [ ]: print(f"The diameter of {planet} is {diameter} kilometers.")

The diameter of Earth is 12742 kilometers.
```

Question-3:

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

Solution:

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

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

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 [ ]: print(d['k1'][3]["tricky"][3]['target'][3])

hello
```

Question-4:

Numpy

Solution:

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

Solution:

```
arr0 = [0] * 9
print (arr0)
```

```
[0, 0, 0, 0, 0, 0, 0, 0, 0]
```

```
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.]
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [ ]:

```
arr0 = [0] * 9
print (arr0)
```

```
[0, 0, 0, 0, 0, 0, 0, 0, 0]
```

In [ ]:

```
array=np.ones(10)*5
print("An array of 10 fives:")
print(array)
```

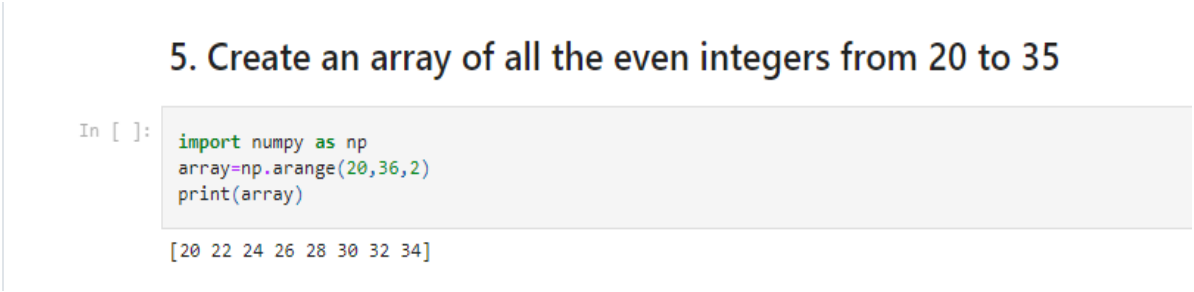
```
An array of 10 fives:
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

Question-5:

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

Solution:

```
import numpy as np
array=np.arange(20,36,2)
print(array)
```

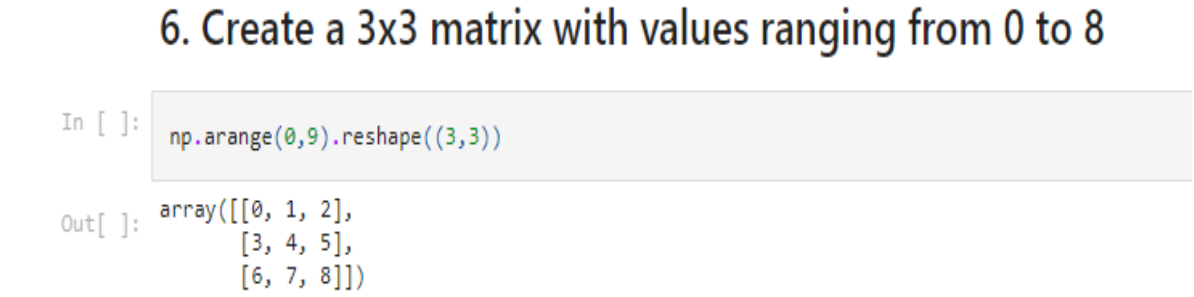


Question-6:

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

Solution:

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



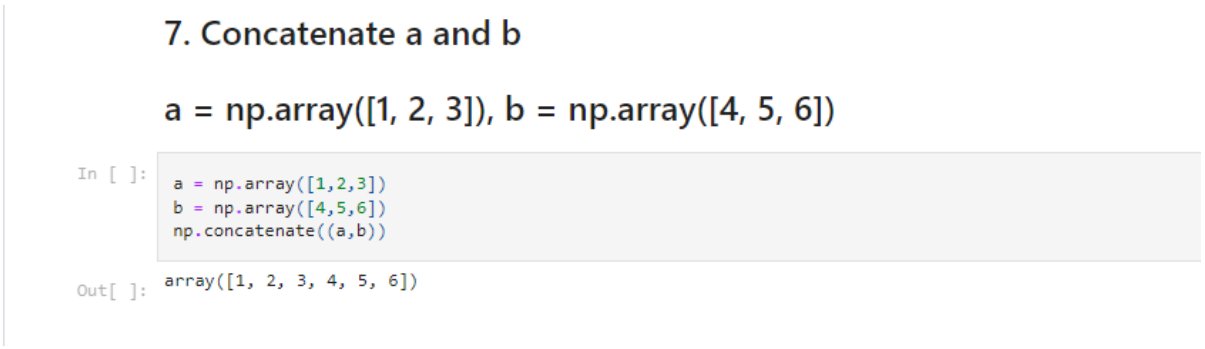
Question-7:

7. Concatenate a and b

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

Solution:

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



Question-8:

Pandas

8. Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd
data = {'Name':['Tom', 'nick', 'krish', 'jack'], 'Age':[20, 21, 19, 18]}
df = pd.DataFrame(data)
print(df)
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

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

In [ ]:
```
data = {'Name':['Tom', 'nick', 'krish', 'jack'], 'Age':[20, 21, 19, 18]}
df = pd.DataFrame(data)
print(df)
```

```
    Name  Age
0    Tom   20
1   nick   21
2  krish   19
3   jack   18
```

Question-9:

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

Solution:

```
dates =pd.date_range('2023-01-01','2023-02-10')
pd.Series(data=dates)
```

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

In [ ]:
```
dates =pd.date_range('2023-01-01','2023-02-10')
pd.Series(data=dates)
```

Out[ ]:
```
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
25   2023-01-26
26   2023-01-27
27   2023-01-28
28   2023-01-29
29   2023-01-30
30   2023-01-31
31   2023-02-01
32   2023-02-02
33   2023-02-03
34   2023-02-04
35   2023-02-05
36   2023-02-06
37   2023-02-07
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:

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
values=lists
pd.DataFrame(values)
```

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 [ ]:
```
values=lists
pd.DataFrame(values)
```

Out[ ]:

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