▾ Basic Python

▾ 1. Split this string

```
s = "Hi there Sam!"
s1=s.split()
s1
```

```
['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
```

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

```
    hello
```

▾ Numpy

▾ 4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
import numpy as np


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.]
```

```
import numpy as np
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. 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

```
import numpy as np
x = np.arange(0, 9).reshape(3,3)
print(x)
```

```
    [[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])

```
import numpy as np

arr1 = np.array([1, 2, 3])

arr2 = np.array([4, 5, 6])

arr = np.concatenate((arr1, arr2))

print(arr)
    [1 2 3 4 5 6]
```

Double-click (or enter) to edit

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd


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

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

```
import pandas as pd
a = pd.date_range(start='1/1/2023', end='2/10/2023')
for i in a:
 print(i.date())
```

```
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
```

10. Create 2D list to DataFrame

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

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

```python
import pandas as pd
lst = [[1,'aaa', 25], [2,'bbb', 30],[3, 'ccc', 24]]

df = pd.DataFrame(lst, columns =['number','Tag', 'number'])
print(df)
```

```
   number  Tag  number
0       1  aaa      25
1       2  bbb      30
2       3  ccc      24
```

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