

Basic Python

TEAM ID: PNT2022TMID41512

1. Split this string

```
In[1]: s = "Hi there Sam!"  
In[2]: s.split()  
Out[2]: ['Hi', 'there', 'Sam!']
```

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

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

```
In [3]: planet = "Earth"  
  
        diameter = 12742  
  
In [5]: 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"

```
In [6]:  
  
d={'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]  
}  
  
In [8]:  
  
d={'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]  
}  
print(d['k1'][3]["tricky"][3]['target'][3])  
  
hello
```

Numpy

```
In [9]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [11]: array=np.zeros(10)
         array
```

```
Out[11]: array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

```
In [12]: array=np.ones(10)*5
         array
```

```
Out[12]: array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

```
In [13]: array=np.arange(20,35,2)
         array
```

```
Out[13]: array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

```
In [21]: matrix=np.arange(0,9).reshape(3,3)
         matrix
```

```
Out[21]: array([[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])

```
In [24]: a = np.array([1, 2, 3])
```

```
b = np.array([4, 5, 6])
ab=np.concatenate((a,b),axis=0)
ab
Out[24]: array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
In [25]: import pandas as pd
In [27]: data = [['vb', 10], ['hari', 15], ['prasath', 14]]
         df = pd.DataFrame(data, columns=['Name', 'Age'])
         df
```

Out[27]:

	Name	Age
0	vb	10
1	hari	15
2	prasath	14

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

```
In [51]: per1 = pd.date_range(start ='01-01-2023',
                               end ='02-10-2023' )
```

```
for val in per1:
    print(val)
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
```

```
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
2023-01-20 00:00:00
2023-01-24 00:00:00
2023-01-25 00:00:00
2023-01-26 00:00:00
2023-01-27 00:00:00
2023-01-28 00:00:00
2023-01-29 00:00:00
2023-01-30 00:00:00
2023-01-31 00:00:00
2023-02-01 00:00:00
2023-02-02 00:00:00
2023-02-03 00:00:00
2023-02-04 00:00:00
2023-02-05 00:00:00
2023-02-06 00:00:00
2023-02-07 00:00:00
2023-02-08 00:00:00
2023-02-09 00:00:00
2023-02-10 00:00:00
2023-01-21 00:00:00
2023-01-22 00:00:00
2023-01-23 00:00:00
```

10. Create 2D list to DataFrame

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

```
In [35]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
In [58]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
# Create the pandas DataFrame
```

```
df = pd.DataFrame(lists, columns = ['s.no', 'name', 'Age'])
```

```
# print dataframe.
```

```
print(df )
```

	s.no	name	Age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24