

Basic Python

1. Split this string

In [1]:

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

In [2]:

```
s.split()
```

Out[2]:

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

italicized text## 2. Use .format() to print the following string

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

In [4]:

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

In [5]:

```
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 [7]:

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

Out[7]:

```
'hello'
```

Numpy

In [8]:

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [9]:

```
a = np.zeros(10)
```

In [10]:

a

Out[10]:

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

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

In [11]:

```
b = np.ones(10)*5  
b
```

Out[11]:

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

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

In [12]:

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

Out[12]:

```
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 [13]:

```
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])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [14]:

```
import pandas as pd
```

In [15]:

```
d = {"fruits":["mango","orange","apple"],"color":["yellow","orange","red"]}
df = pd.DataFrame(d)
df
```

Out[15]:

	fruits	color
0	mango	yellow
1	orange	orange
2	apple	red

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

In [16]:

```
P = pd.date_range(start='1-1-2023',end='10-2-2023')
for val in P:
    print(val);
```

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```

10. Create 2D list to DataFrame

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

In [17]:

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

In [18]:

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

Out[18]:

	0	1	2
0	1	aaa	22
1	2	bbb	25

