

Basic Python

1. Split this string

```
In [1]: s="Hello Everyone!"
```

```
In [2]: s.split()
```

```
Out[2]: ['Hello', 'Everyone!']
```

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

```
In [5]: planet = "Earth"
diameter = 12742
print("The diameter of {} is {} kilometers.".format(planet,diameter))
```

The diameter of Earth is 12742 kilometers.

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

```
In [7]: l = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
In [8]: l = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
l["k1"][3]["tricky"][3]["target"][3]
```

```
Out[8]: 'hello'
```

Numpy

```
In [10]: import numpy as np
```

4.1 Create an array of 10 Zeros

4.2 Create an array of 10 fives

```
In [11]: import numpy as np
arr=np.zeros(10)
arr
```

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

```
In [12]: import numpy as np
arr1=np.ones(10)*5
arr1
```

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

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

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

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

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

```
In [14]: import numpy as np
array1=np.arange(0,9).reshape(3,3)
array1
```

```
Out[14]: array([[0, 1, 2],
               [3, 4, 5],
               [6, 7, 8]])
```

1. Concatenate a and b

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

```
In [15]: import numpy as np
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
c=np.concatenate((a,b),axis=0)
c
```

```
Out[15]: array([1, 2, 3, 4, 5, 6])
```

Pandas

1. Create a dataframe with 3 rows and 2 columns

```
In [16]: import pandas as pd
```

```
In [17]: x=[1,2]
y=[4,5]
z=[6,7]
data=pd.DataFrame([x,y,z])
data
```

```
Out[17]:   0  1
0  1  2
1  4  5
2  6  7
```

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

```
In [18]: dates=pd.date_range(start='1/01/2023',end='10/02/2023')
dates
```

```
Out[18]: DatetimeIndex(['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',
                        ...,
                        '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
                        '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
                        '2023-10-01', '2023-10-02'],
                        dtype='datetime64[ns]', length=275, freq='D')
```

1. Create 2D list to DataFrame

```
In [19]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
In [20]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
dataframe=pd.DataFrame(lists)
dataframe
```

```
Out[20]:   0  1  2
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
```