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