Basic Python

1. Split this string

In [1]:
```
s = "Hi there Sam!"
```

In [2]:
```
lists = list(map(str , s.split()))
lists
```

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

In [4]:
```
"The diameter of {} is {} kilometers".format(planet , diameter)
```

Out[4]:
```
'The diameter of Earth is 12742 kilometers'
```

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

In [5]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

In [6]:
```
print(d['k1'][3]['tricky'][3]['target'][3])
```

```
hello
```

Numpy

In [7]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [8]:
```
arr = np.full(10 , 0)
arr
```

Out[8]:
```
array([0, 0, 0, 0, 0, 0, 0, 0, 0, 0])
```

In [9]:
```
arrFive = np.full(10,5)
arrFive
```

Out[9]:
```
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 [10]:
```
evenArr=np.arange(20,35,2)
print(evenArr)
```

```
[20 22 24 26 28 30 32 34]
```

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

In [11]:
```
matAr = np.arange(0,9).reshape(3,3)
print(matAr)
```

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

7. Concatinate a and b

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

In [12]:
```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
c=np.concatenate((a,b),axis=None)
print(c)
```

```
[1 2 3 4 5 6]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [13]:
```
import pandas as pd
```

In [14]:
```
dataFrame  = pd.DataFrame(index=[1,2,3] , columns=[1,2])
dataFrame
```

Out[14]:

	1	2
1	NaN	NaN
2	NaN	NaN
3	NaN	NaN

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

In [15]:
```
Date=pd.date_range(start='1-1-2023',end='2-10-2023')
Date
```

Out[15]:
```
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', '2023-01-11', '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'],
dtype='datetime64[ns]', freq='D')
```

10. Create 2D list to DataFrame

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

In [16]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [17]:
```
df1=pd.DataFrame(lists)
print(df1)
```

```
   0    1   2
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
```