Basic Python

1.Split this String

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

Out[1]:
```
['Hi', 'there', 'Sam!']
```

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

output should be: The diameter of earth is 12742 Kilometers.

In [2]:
```
planet = "Earth"
diameter = 12742
Txt="The diameter of {} is {} kilometers".format(planet ,diameter)
print(Txt)
```

```
The diameter of Earth is 12742 kilometers
```

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

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

Out[3]:
```
'hello'
```

Numpy

In [4]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [5]:
```
np.zeros([10])
```

Out[5]:
```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

In [6]:
```
array=np.ones(10)*5
print("An array of 10 fives:")
print(array)
```

```
An array of 10 fives:
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

In [7]:
```
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35:",array)
```

```
Array of all the even integers from 20 to 35: [20 22 24 26 28 30 32 34]
```

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

In [8]:
```
a = np.arange(9).reshape(3,3)
print (a)
```

```
[[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 [9]:
```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
np.concatenate((a, b) ,axis=None)
```

Out[9]:
```
array([1, 2, 3, 4, 5, 6])
```

Pandas

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

1. Create a dataframe with 3 rows and 2 columns

In [14]:
```
a=np.random.randint(10,size=(3,2))
df=pd.DataFrame(a)
print(df)
```

```
   0  1
0  4  0
1  3  9
2  7  2
```

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

In [15]:
```
d = pd.date_range("1/1/2023","2/10/2023")
print(d)
```

```
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')
```

1. 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]]
df = pd.DataFrame(lists, columns = ['s.no' , 'name' , 'number'])
print(df)
```

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

In [ ]:
```
```