Basic Python

1. Split this string

In [51]:
```
s = "Hi there Sam!"
x=s.split()
print(x)
```

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

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

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

In [1]:
```
planet = "Earth"
diameter = 12742
```

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

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

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

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

In [4]:
```
print(d['k1'][3]["tricky"][3]['target'][3])
```

```
hello
```

Numpy

In [5]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [6]:
```
var=np.zeros(10)
var
```

Out[6]:
```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

In [7]:
```
array=np.ones(10)*5
array
```

Out[7]:
```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

In [ ]:
```

```

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

In [8]:
```
array=np.arange(20,36,2)
array
```

Out[8]:
```
array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

In [9]:
```
a=np.array([[[0,1,2],[3,4,5],[6,7,8]]])
a
```

Out[9]:
```
array([[[0, 1, 2],
        [3, 4, 5],
        [6, 7, 8]]])
```

In [ ]:
```

```

7. Concatenate a and b

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

In [10]:
```
a=np.array([1,2,3])
b=np.array([4,5,6])
con=np.concatenate((a,b))
con
```

Out[10]:
```
array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [11]:
```
import pandas as pd
```

In [12]:
```
pd.DataFrame([[1,2,3,4],[5,6,7,8],[9,8,7,6]])
```

Out[12]:

	0	1	2	3
0	1	2	3	4
1	5	6	7	8
2	9	8	7	6

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

In [16]:
```
per1=pd.date_range(start='1-1-2023',end='2-10-2023')
per1
```

Out[16]:
```
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 [17]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [15]:
```
df=pd.DataFrame(lists,columns=['0','1','2'])
df
```

Out[15]:

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

In [ ]:
```

```

In [ ]:
```

```