# 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.

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

```
Out[2]:'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']}]}]} d['k1'][3]['tricky'][3]['target'][3]
```

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

# Numpy

## 4.1 Create an array of 10 zeros?

## 4.2 Create an array of 10 fives?

```
In [8]: import numpy as np
        array=np.zeros(10) print("An
        array of 10 zeros:")
        print(array)
```

```
        An array of 10 zeros:
        [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
In [9]: 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.]
```

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

```
In [10]: array=np.arange(20,36,2) print("Array of all the even
         integers from 20 to 35") print(array)
```

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

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

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

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

## 7. Concatenate a and b

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

```
In [12]: a = np.array([1, 2, 3])
         print(a) b = np.array([4, 5,
         6]) print(b)
         print(np.concatenate((a, b)))
```

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

# Pandas

## 8. Create a dataframe with 3 rows and 2 columns

```
In [13]: import pandas as pd data = {'Name':
         ['mahi', 'mad', 'rishi'],
                 'Age': [20, 21, 22]}
         df = pd.DataFrame(data) df
```

```
Out [13]:name    age
         mahi    20
         mad     21
         rishi   22
```

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

```
In [14]: date = pd.date_range(start='1/1/2023', end='10/02/2023') date
```

```
Out[14]: 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')
```

## 10. Create 2D list to DataFrame

```
In [15]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]] df =
         pd.DataFrame(lists, columns = ['S.NO', 'NAME', 'AGE'])
         print(df)
```

```
            S.NO NAME  AGE
         0     1  aaa   22
         1     2  bbb   25
         2     3  ccc   24
```

```
In [ ]:
```