# Basic Python

## 1. Split this string

In [ ]:

s **=** "Hi there Sam!"

In [ ]:

print(s**.**split(" "))

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

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

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

In [ ]:

planet **=** "Earth"

diameter **=** 12742

In [ ]:

print("The diameter of {Planet} is {dia} kilometers."**.**format(Planet**=**planet,dia**=**diameter))

The diameter of Earth is 12742 kilometers.

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

In [ ]:

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

In [ ]:

print(d['k1'][3]['tricky'][3]['target'][3])

hello

# Numpy

In [ ]:

**import** numpy **as** np

## 4.1 Create an array of 10 zeros?

## 4.2 Create an array of 10 fives?

In [ ]:

np**.**zeros(10,dtype**=**int)

Out[ ]:

array([0, 0, 0, 0, 0, 0, 0, 0, 0, 0])

In [ ]:

np**.**ones(10,dtype**=**int)**\***5

Out[ ]:

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 [ ]:

np**.**arange(20,35,2)

Out[ ]:

array([20, 22, 24, 26, 28, 30, 32, 34])

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

In [ ]:

np**.**arange(0,9)**.**reshape(3,3)

Out[ ]:

array([[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 [ ]:

a **=** np**.**array([1, 2, 3])

b **=** np**.**array([4, 5, 6])

np**.**concatenate((a,b),axis**=None**)

Out[ ]:

array([1, 2, 3, 4, 5, 6])

# Pandas

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

In [ ]:

**import** pandas **as** pd

In [ ]:

data **=** [["Gokul", 21],["Krishna",20],["Hari",19]]

pd**.**DataFrame(data)

Out[ ]:

|  | **0** | **1** |
| --- | --- | --- |
| **0** | Gokul | 21 |
| **1** | Krishna | 20 |
| **2** | Hari | 19 |

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

In [ ]:

pd**.**date\_range(start**=**"1/1/2023",end**=**"2/10/2023")

Out[ ]:

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 [ ]:

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

In [ ]:

pd**.**DataFrame(lists)

0 1 2

0 1 aaa 22

1 2 bbb 25

2 3 ccc 24