1. **Split this string**

# Basic Python

s = "Hi there seenu!" print(s.split())

['Hi', 'there', ' seenu!']

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

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

planet = "Earth" diameter = 12742

a="The diameter of {planet}is{diameter}kilometers" print(a.format(planet="Earth",diameter = 12742))

The diameter of Earthis12742kilometers

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

d = {'n1':[1,2,3,{'tricky':['oh','man','inception',{'target': [1,2,3,'hello']}]}]}

print(d)

{'n1': [1, 2, 3, {'tricky': ['oh', 'man', 'inception', {'target': [1,

2, 3, 'hello']}]}]}

# Numpy

import numpy as np b=np.zeros(10)\*0 print(b)

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

## Create an array of 10 zeros?

* 1. **Create an array of 10 fives?**

import numpy as np b=np.ones(10)\*5 print(b)

[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]

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

import numpy as np a=np.arange(20,35,2) print(a)

[20 22 24 26 28 30 32 34]

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

import numpy as np a=np.arange(0,9).reshape(3,3) print(a)

|  |  |  |
| --- | --- | --- |
| [[0 | 1 | 2] |
| [3 | 4 | 5] |
| [6 | 7 | 8]] |

## Concatenate a and b

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

import numpy as np arr1=np.array([1,2,3])

arr2=np.array([4,5,6]) arr=np.concatenate((arr1,arr2)) print(arr)

[1 2 3 4 5 6]

# Pandas

## Create a dataframe with 3 rows and 2 columns

import pandas as pd data=[{'a':12,'b':45},{'a':54,'b':23},{'a':94,'b':76}]

df=pd.DataFrame(data) print(df)

a b

0 12 45

1 54 23

2 94 76

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

import pandas as pd a=pd.date\_range(start='1/1/2023',end='10/2/2023') print(a)

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')

## Create 2D list to DataFrame

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

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

import pandas as pd lst=[[1,'aaa',22],[2,'bbb,25'],[3,'ccc',24]]

df=pd.DataFrame(lst) print(df)

|  |  |  |
| --- | --- | --- |
| 0 | 1 | 2 |
| 0 1 | aaa | 22.0 |
| 1 2 | bbb,25 | NaN |
| 2 3 | ccc | 24.0 |