1. **Split this string**

**Basic Python** s = "Hi there Sam!" print(s.split())

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

1. **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

1. **In this nest dictionary grab the word "hello"**d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':

[1,2,3,'hello']}]}]} print(d)

{'k1': [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.]

**4.1 Create an array of 10 zeros?**

**4.2 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.]

**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]

**6. 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]]

**7. 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

**8. 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
3. **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')

1. **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)

* 1. 1 20 1 aaa 22.0
  2. 2 bbb,25 NaN
  3. 3 ccc 24.0