**Basic Python**

* **Split this string**

S = “Hi there Sam!”

S=”Hi there Sam!”

S=s.split()

Print(s);

[‘Hi’, ‘there’, ‘Sam!’]

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

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

Planet = “Earth”

Diameter = 12742

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Diameter = 12742

Print( ‘The diameter of {} is {} kilometers.’ .format(planet,diameter));

The diameter of Earth is 12742 kilometers.

* **In this nest dictionary grab the word “hello”**

D = {‘k1’:[1,2,3,{‘tricky’:[‘oh’,’man’,’inception’,{‘target’:[1,2,3,’hello’]}]}]}

Lst = [1,2,[3,4],[5,[100,200,[‘hello’]],23,11],1,7]

A=lst[3][1][2];

Print(a)

[‘hello’]

**Numpy**

Import numpy as np

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

**4.2 Create an array of 10 fives?**

Import numpy as np

Array=np.zeros(10)

Print(“An array of 10 zeros:”)

Print(array)

An array of 10 zeros:

Import numpy as np

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**

Import numpy as np

Array=np.arange(20,35,2)

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**

Import numpy as np

X = np.arange(0, 9).reshape(3,3)

Print(x)

[[0 1 2]

[3 4 5]

[6 7 8]]

**7. Concatinate 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

Import pandas as pd

Data = [[‘RIYA’, 10], [‘AIRA’, 15], [‘DAFI’, 14]]

Df = pd.DataFrame(data, columns=[‘Name’, ‘Age’])

Df

Name Age

0 RIYA 10

1 AIRA 15

2 DAFI 14

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

Import pandas as pd

dRan1 = pd.date\_range(start =’1-1-2023’, periods = 41)

print(dRan1)

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]]

Lists = [[1, ‘aaa’, 22], [2, ‘bbb’, 25], [3, ‘ccc’, 24]]

List= {‘name’:[‘aaa’, ‘bbb’, ‘ccc’],

‘score’:[22,25,24]}

Df = pd.DataFrame(list,index=[‘1’,’2’,’3’])

Df

Name score

1 aaa 22

2 bbb 25

3 ccc 24