**Basic Python**

1. Split this string

s = "Hi there Sam!"

s.split()

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

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

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

planet = "Earth"

diameter = 12742

print("The diameter of {} is {} kilometers.".format(planet,diameter))

The diameter of Earth is 12742 kilometers.

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

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

d['k1'][3]['tricky'][3]['target'][3]

'hello'

Numpy

import numpy as np

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

a=np.zeros(10)

a

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

b=np.ones(10)\*5

b

array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])

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

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

a

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

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

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

array

array([[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])

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

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

np.concatenate((a,b),axis=0)

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

import pandas as pd

d={"names":["swetha","nasreen","anu"],"age":[20,19,20]}

df=pd.DataFrame(d)

df

names age

0 roshini 20

1 athira 19

2 priya 20

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

p=pd.date\_range(start='1-1-2023',end='10-2-2023')

for val in p:

print(val);

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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]]

df=pd.DataFrame(lists)

df

0 1 2

0 1 aaa 22

1 2 bbb 25

2 3 ccc 24