**BASIC PYTHON**

**1. Split this string**

**In [ ]:**

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

**In [ ]:**

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

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

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

**In [ ]:**

planet **=** "Earth"

diameter **=** 12742

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

**In [ ]:**

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

**Out[]:**

'hello'

**Numpy**

**In [ ]:**

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

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

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

np**.**zeros([10])

**Out[]:**

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

**In []:**

array**=**np**.**ones(10)**\***5

print("An array of 10 fives:")

print(array)

**Out[]:**

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**

**In [ ]:**

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

print("Array of all the even integers from 20 to 35:",array)

**Out[]:**

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**

**In [ ]:**

a **=** np**.**arange(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])**

**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**

**In [ ]:**

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

**8. Create a data frame with 3 rows and 2 columns**

a**=**np**.**random**.**randint(10,size**=**(3,2))

df**=**pd**.**DataFrame(a)

print(df)

0 1

0 3 7

1 6 9

2 6 5

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

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

print(d)

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 [21]:

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

df **=** pd**.**DataFrame(lists, columns **=** ['s.no' , 'name' , 'number'])

print(df)

s.no name number

0 1 aaa 22

1 2 bbb 25

2 3 ccc 24