**Basic Python**

**1. Split this string**

In [2]:

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

In [3]:

s**.**split()

Out[3]:

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

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

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

In [4]:

planet **=** "Earth"

diameter **=** 12742

In [12]:

a**=**("The diameter of {} is {} kilometers"**.**format("Eath",12742))

print(a)

The diameter of Eath is 12742 kilometers

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

In [13]:

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

In [14]:

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

Out[14]:

'hello'

**Numpy**

In [15]:

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

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

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

In [16]:

np**.**zeros(10)**\***0

Out[16]:

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

In [17]:

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

Out[17]:

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

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

In [19]:

np**.**arange(20,36,2)

Out[19]:

array([20, 22, 24, 26, 28, 30, 32, 34])

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

In [21]:

a**=**np**.**arange(0,9)

print(a**.**reshape(3,3))

[[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])**

In [24]:

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

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

con**=**np**.**concatenate((a,b))

print(con)

[1 2 3 4 5 6]

**8. Create a dataframe with 3 rows and 2 columns**

In [26]:

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

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

In [29]:

d**=**np**.**arange(0,3)

df**=**pd**.**DataFrame(d,columns**=**['numbers'])

print(df)

numbers

0 0

1 1

2 2

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

In [32]:

**from** datetime **import** datetime

pd**.**date\_range(start**=**"2023-01-01",end**=**"2023-02-10")**.**to\_pydatetime()**.**tolist()

Out[32]:

[datetime.datetime(2023, 1, 1, 0, 0),

datetime.datetime(2023, 1, 2, 0, 0),

datetime.datetime(2023, 1, 3, 0, 0),

datetime.datetime(2023, 1, 4, 0, 0),

datetime.datetime(2023, 1, 5, 0, 0),

datetime.datetime(2023, 1, 6, 0, 0),

datetime.datetime(2023, 1, 7, 0, 0),

datetime.datetime(2023, 1, 8, 0, 0),

datetime.datetime(2023, 1, 9, 0, 0),

datetime.datetime(2023, 1, 10, 0, 0),

datetime.datetime(2023, 1, 11, 0, 0),

datetime.datetime(2023, 1, 12, 0, 0),

datetime.datetime(2023, 1, 13, 0, 0),

datetime.datetime(2023, 1, 14, 0, 0),

datetime.datetime(2023, 1, 15, 0, 0),

datetime.datetime(2023, 1, 16, 0, 0),

datetime.datetime(2023, 1, 17, 0, 0),

datetime.datetime(2023, 1, 18, 0, 0),

datetime.datetime(2023, 1, 19, 0, 0),

datetime.datetime(2023, 1, 20, 0, 0),

datetime.datetime(2023, 1, 21, 0, 0),

datetime.datetime(2023, 1, 22, 0, 0),

datetime.datetime(2023, 1, 23, 0, 0),

datetime.datetime(2023, 1, 24, 0, 0),

datetime.datetime(2023, 1, 25, 0, 0),

datetime.datetime(2023, 1, 26, 0, 0),

datetime.datetime(2023, 1, 27, 0, 0),

datetime.datetime(2023, 1, 28, 0, 0),

datetime.datetime(2023, 1, 29, 0, 0),

datetime.datetime(2023, 1, 30, 0, 0),

datetime.datetime(2023, 1, 31, 0, 0),

datetime.datetime(2023, 2, 1, 0, 0),

datetime.datetime(2023, 2, 2, 0, 0),

datetime.datetime(2023, 2, 3, 0, 0),

datetime.datetime(2023, 2, 4, 0, 0),

datetime.datetime(2023, 2, 5, 0, 0),

datetime.datetime(2023, 2, 6, 0, 0),

datetime.datetime(2023, 2, 7, 0, 0),

datetime.datetime(2023, 2, 8, 0, 0),

datetime.datetime(2023, 2, 9, 0, 0),

datetime.datetime(2023, 2, 10, 0, 0)]

**10. Create 2D list to DataFrame**

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

In [33]:

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

In [37]:

df**=**pd**.**DataFrame(lists,columns**=**['identity','tag','numbers'])

print(df)

identity tag numbers

0 1 aaa 22

1 2 bbb 25

2 3 ccc 24

In [ ]: