**ASSIGNMENT 1**

**-Shakthi Sri S**

**-Raveena M**

**-Sarah Jaci J**

**-Shafreen Fathima**

**1. Split this string**

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

**Solution:**

x **=** s**.**split()

print(x)

**Output:**

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

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

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

**Solution:**

planet **=** "Earth"

diameter **=** 12742

print('The diameter of {}is {} kilometer.'**.**format (planet,diameter));

**Output:**

The diameter of Earthis 12742 kilometer.

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

**Solution:**

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

print(d['k1'][3]["tricky"][3]['target'][3])

**Output:**

hello

**Numpy**

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

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

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

**Solution:**

array**=**np**.**zeros(10)

print("An array of 10 zeros:")

print(array)

**Output:**

An array of 10 zeros:

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

**Solution:**

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

print("An array of 10 fives:")

print(array)

**Output:**

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**

**Solution:**

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

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

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

print(array)

**Output:**

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**

**Solution:**

x **=** np**.**arange(0, 9)**.**reshape(3,3)

print(x)

**Output:**

[[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])**

**Solution:**

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

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

np**.**concatenate([a, b])

**Output:**

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

**Pandas**

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

**Solution:**

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

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

p**=**np**.**arange(6)**.**reshape(3,2)

label1**=**['a','b','c']

label2**=**['A','B',]

p

df **=** pd**.**DataFrame(p,index**=** label1, columns**=**label2)

df

**Output:**

|  | **A** | **B** |
| --- | --- | --- |
| **a** | 0 | 1 |
| **b** | 2 | 3 |
| **c** | 4 | 5 |

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

**Solution:**

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

**Output:**

[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**

**Solution:**

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

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

df **=** pd**.**DataFrame(lists, columns **=**['A', 'B','C'])

print(df )

**Output:**

A B C

0 1 aaa 22

1 2 bbb 25

2 3 ccc 24