**Assignment -1**
Basic Python

| Assignment Date | 19 September 2022 |
|---|---|
| Student Name | B.Sriram |
| Student Roll Number | 2127190801082 |
| Maximum Marks | 2 Marks |

**Question-1:**

Split this string:

s = "Hi there Sam!"

**Solution:**
**x=s.split()**
**print(x)**

### 1. Split this string

```
In [4]: s = "Hi there Sam!"

In [5]: x = s.split()
        print(x)

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

**Question-2:**

Use .format() to print the following string:

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

**Solution:**

**planet = "Earth"**

**diameter = 12742**

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

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

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

```
In [21]: planet = "Earth"
         diameter = 12742

In [23]: txt="The diameter of {} is {} kilometers"
         print(txt.format(planet,diameter))

         The diameter of Earth is 12742 kilometers
```

**Question 3:**

In this nest dictionary grab the word "hello":

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

**Solution:**

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

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

```
In [24]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
In [61]: d['k1'][3]['tricky'][3]['target'][3]
Out[61]: 'hello'
```

**Question 4:**

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

**Solution:**

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

    **print(array)**

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

    **print(array)**

### 4.1 Create an array of 10 zeros?

### 4.2 Create an array of 10 fives?

```
In [7]: array=np.zeros(10)
        print(array)

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

```
In [8]: array=np.ones(10)*5
        print(array)

        [5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

**Question 5:**

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

**Solution:**

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

**print(array)**

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

```
In [9]: array=np.arange(20,36,2)
        print(array)

        [20 22 24 26 28 30 32 34]
```

**Question 6:**

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

**Solution:**

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

**print(x)**

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

```
In [10]: x =  np.arange(0,9).reshape(3,3)
         print(x)

         [[0 1 2]
          [3 4 5]
          [6 7 8]]
```

**Question 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])**

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

**print(c)**

## 7. Concatinate a and b

## a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

```
In [11]: a = np.array([1, 2, 3])
         b = np.array([4, 5, 6])
         c = np.concatenate((a, b))
         print(c)

[1 2 3 4 5 6]
```

**Question 8:**

Create a dataframe with 3 rows and 2 columns

**Solution:**

**import pandas as pd**

**data = [['harry', 20], ['thanos', 45], ['emma', 19]]**

**df = pd.DataFrame(data, columns=['Name', 'Age'])**

**df**

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

```
In [12]: import pandas as pd
```

```
In [15]: data = [['harry', 20], ['thanos', 45], ['emma', 19]]
         df = pd.DataFrame(data, columns=['Name', 'Age'])
         df
```

Out[15]:

|   | Name | Age |
|---|------|-----|
| 0 | harry | 20 |
| 1 | thanos | 45 |
| 2 | emma | 19 |

**Question 9:**

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

**Solution:**

**import pandas as pd**

**from datetime import datetime**

**pd.date_range(start="2023-01-01",end="2023-02-10")**

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

```
In [16]: import pandas as pd
         from datetime import datetime
         pd.date_range(start="2023-01-01",end="2023-02-10")

Out[16]: 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')
```

## Question 10:

Create 2D list to DataFrame:

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

**Solution:**

**import pandas as pd**

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

**df = pd.DataFrame(lists, columns =['S.NO','Name', 'number'])**

**print(df)**

## 10. Create 2D list to DataFrame

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

```
In [20]: import pandas as pd
         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
```