Assignment -1

Assignment Date	8 September 2022
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Student Roll Number	111519104094
Maximum Marks	2 Marks

Basic Python

1. Split this string

```
[1]  s = "Hi there Sam!"
     print(s.split())

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

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

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

```
[2]  planet = "Earth"
     diameter = 12742
```

```
[3]  txt="The diameter of {plt} is {dr} kilometres.".format(plt=planet,dr=diameter)
     print(txt)

     The diameter of Earth is 12742 kilometres.
```

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

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

```
[ ]
```

Numpy

```
[5]  import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
[6]  array=np.zeros(10)
     print(array)

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

```
[7]  array=np.ones(10)*5
     print(array)
```

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

```
[8]  array=np.arange(20,35,2)
     print(array)

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

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

```
[9]  arr=np.arange(0,9).reshape(3,3)
     print(arr)

     [[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])

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

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
[11] import pandas as pd
```

```
[12] data=pd.DataFrame(index=np.arange(3), columns=np.arange(2))
     print(data)
          0    1
     0  NaN  NaN
     1  NaN  NaN
     2  NaN  NaN
```

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

```
[ ]  data=pd.date_range(start="1/1/2023",end="10/2/2023")
     print(data)

     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'
```

```
[ ]  data=pd.date_range(start="1/1/2023",end="10/2/2023")
     print(data)

     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',
                    ...
                    '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
                    '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
                    '2023-10-01', '2023-10-02'],
                   dtype='datetime64[ns]', length=275, freq='D')
```

10. Create 2D list to DataFrame

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

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

```
[14] data=pd.DataFrame(lists,columns=["s.no","pattern","number"])
     print(data)

        s.no pattern  number
     0     1     aaa      22
     1     2     bbb      25
     2     3     ccc      24
```