

Assignment -1

Assignment Date	8 September 2022
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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. Concatenate 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',  
               '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
```