ASSIGNMENT DATE	10 SEPTEMBER 2022
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MAXIMUM MARKS	2 MARKS

ASSIGNMENT 1 :

Basic Python command:

Basic Python

1. Split this string

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

In [ ]: print(s.split())

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

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

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

```
In [5]: planet = "Earth"
        diameter = 12742

In [8]: print("The diameter of {} is {} kilometers.".format(planet,diameter))

        The diameter of Earth is 12742 kilometers.
```

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

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

In [2]: print(d["k1"][3]["tricky"][3]["target"][3])

        hello
```

Numpy

```
In [9]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [11]: print(np.zeros(10))

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

In [13]: print(np.ones(10)*5)

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

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

```
In [16]: print(np.arange(20,35,2))

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

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

```
In [22]: print(np.arange(0,9).reshape(3,3))

         [[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])

```
In [27]: a = np.array([1, 2, 3])
         b = np.array([4, 5, 6])
         print(np.concatenate((a,b),axis=0))

         [1 2 3 4 5 6]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
In [28]: import pandas as pd

In [30]: data = [[1,2],[3,4],[5,6]]
         print(pd.DataFrame(data))

            0  1
         0  1  2
         1  3  4
         2  5  6
```

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

```
In [33]: print(pd.date_range(start='1/1/2023', end='02/10/2023'))

         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')
```

10. Create 2D list to DataFrame

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

```
In [32]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]

In [37]: print(pd.DataFrame(lists,columns=['value1','value2','value3']))
```