

Assignment 1

Assignment Date	28 September 2022
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Student Roll Number	811519104009
Maximum Marks	2 Marks

1. Split this string

```
In [16]: s = "Hi there Sam!"  
In [17]: s.split()  
Out[17]: ['Hi', 'there', 'Sam!']
```

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

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

```
In [18]: planet = "Earth"  
         diameter = 12742  
In [19]: txt = "The diameter of {planet:} is {diameter:}"  
         print(txt.format(planet="Earth",diameter=12742))  
The diameter of Earth is 12742
```

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

```
In [20]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}  
In [21]: g=d['k1'][3]  
         h=g['tricky'][3]  
         print(h['target'][3])  
hello
```

Numpy

```
In [22]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [23]: array=np.zeros(10)  
         print(array)  
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
In [24]: array=np.ones(10)*5  
         print(array)  
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
In [25]: 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

```
In [26]: x = np.arange(0,9).reshape(3,3)  
         print(x)  
[[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]: import numpy as np
a=np.array([1,2,3])
b=np.array([4,5,6])
print(np.concatenate((a,b)))

[1 2 3 4 5 6]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

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

```
In [29]: lst = [('Java', 'Python'), ('C', 'C++'), ('JavaScript', 'R')]
df = pd.DataFrame(lst)
print(df)
```

	0	1
0	Java	Python
1	C	C++
2	JavaScript	R

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

```
In [31]: import pandas
from datetime import date
sdate = date(2023,1,1)
edate = date(2023,2,10)
print(pandas.date_range(sdate,edate))

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]: import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
In [34]: df = pd.DataFrame(lists)
print(df)
```

	0	1	2
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24