

ASSIGNMENT 1

Basic Python

ASSIGNMENT DATE	10 SEPTEMBER 2022
STUDENT NAME	HARI @ ARJUN.K
STUDENT ROLL NUMBER	2019504525
MAXIMUM MARKS	2 MARKS

1. Split this string

```
s = "Hi there Sam!"
s.split()

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

```
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-----
NameError                                Traceback (most recent call
last)
<ipython-input-1-ed565d8494d9> in <module>
----> 1 s.split()

NameError: name 's' is not defined
```

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

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

```
planet = "Earth"
diameter = 12742
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"

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

hello
```

Numpy

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
np.zeros((1,10))
```

```
array([[0., 0., 0., 0., 0., 0., 0., 0., 0., 0.]])
np.ones(10)*5
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.]])
```

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

```
np.arange(20,35,2)
array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

```
np.arange(0,9,1).reshape((3,3))
array([[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])

```
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

```
import pandas as pd
a=np.zeros((3,2))
pd.DataFrame(a)
```

```

      0      1
0  0.0  0.0
1  0.0  0.0
2  0.0  0.0
```

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

```
pd.date_range(start="1-1-2023",end="2-10-2023")
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]]
```

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

```
pd.DataFrame(lists)
```

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