

ASSIGNMENT 1
Python Programming

Assignment Date	17 September 2022
Student Name	Heshmmathi S
Student Roll Number	211519104054
Maximum Marks	10 Marks

Q1: Split this String

s = "Hi there Sam!"

Answer:

1.Split the String

```
s = "Hi there Sam!"  
x = s.split()  
print(x)  
  
['Hi', 'there', 'Sam!']
```

Q2: Output should be: The diameter of Earth is 12742 kilometers.

Answer:

```
[ ] planet = "Earth"  
    diameter = 12742  
  
[ ] planet = "Earth"  
    diameter = 12742  
    diameter = 12742  
    print('The diameter of {} is {}'.format(planet , diameter))  
  
The diameter of Earth is 12742.
```

Q3: In this nest dictionary grab the word "hello"

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

Answer:

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

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

hello

Q4: 4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

Answer:

```
[ ] import numpy as np  
array=np.zeros(10)  
print("An array of 10 zeros:")  
print(array)
```

An array of 10 zeros:
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

```
[ ] import numpy as np  
array=np.ones(10)*5  
print("An array of 10 fives:")  
print(array)
```

An array of 10 fives:
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]

Q5:Create an array of all the even integers from 20 to 35

Answer:

```
Array of all the even integers from 20 to 35  
[20 22 24 26 28 30 32 34]
```

Q6 :Create a 3x3 matrix with values ranging from 0 to 8

Answer:

```
[ ] import numpy as np
    x = np.arange(0, 9).reshape(3,3)
    print(x)
```

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

Q7:Concatinate a and b

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

Answer:

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

```
▶ import numpy as np
  a = np.array([1, 2, 3])
  b = np.array([ 4, 5, 6])
  arr = np.concatenate(( a, b))
  print(arr)
```

```
📄 [1 2 3 4 5 6]
```

Q8:Create a dataframe with 3 rows and 2 columns

Answer:

```
import pandas as pd
```

```
[ ] import pandas as pd
    data = [['Apple', 100], ['Banana', 15], ['Mango', 150]]
    df = pd.DataFrame(data, columns=['Fruit', 'Price'])
    df
```

	Fruit	Price
0	Apple	100
1	Banana	15
2	Mango	150

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

Answer:

```
[ ] import pandas as pd
    pd.date_range(start='1/1/2023', end='10/2/2023')
```

```
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',
                ...,
                '2023-09-23', '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')
```

Q 10:Create 2D list to DataFrame

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

Answer:

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

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

```
[ ] import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists, columns=['S.no', 'Alphabet', 'Numerical'])
df
```

	S.no	Alphabet	Numerical
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24