

ASSIGNMENT - 1
PYTHON PROGRAMMING

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|---------------------|-------------------|
| Assignment Date | 19 September 2022 |
| Student Name | Ms. SWATHI J |
| Student Roll Number | 111519205049 |
| Maximum Marks | 2 Marks |

QUESTION-1:

Split this string

Solution:

```
s = "Hi there Sam!"
```

```
x=s.split()
```

```
print(x)
```

OUTPUT:

1. Split this string

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

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

QUESTION-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));
```

OUTPUT:

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.

QUESTION - 3:

In this nest dictionary grab the word "hello"

SOLUTION:

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

OUTPUT:

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
```

QUESTION-4:

4.1:Create an array of 10 zeros?

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

OUTPUT:

```
[ ] import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
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.]
```

4.2 Create an array of 10 fives?

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

OUTPUT:

```
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.]
```

QUESTION - 5:

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

```
array = np.arange(20,35,2)  
print(array)
```

OUTPUT:

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

```
array = np.arange(20,35,2)
print(array)

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

QUESTION - 6:

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

SOLUTION:

```
x=np.arange(9).reshape(3,3)
print(x)
```

OUTPUT:

```
[ ] x = np.arange(9).reshape(3,3)
    print(x)

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

QUESTION - 7

Concatenate a and b

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

Solution:

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

OUTPUT:

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

[1 2 3 4 5 6]
```

QUESTION - 8:

Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
lists=[['aaa',22],['bbb',25],['ccc',24]]
df=pd.DataFrame(lists,columns=['Name','Age'],dtype=str)
print(df)
```

OUTPUT:

8. Create a dataframe with 3 rows and 2 columns

```
[ ] import pandas as pd
lists = [['aaa', 22], ['bbb', 25], ['ccc', 24]]
df = pd.DataFrame(lists, columns = ['Name', 'Age'],
dtype = str)

print(df)
```

| | Name | Age |
|---|------|-----|
| 0 | aaa | 22 |
| 1 | bbb | 25 |
| 2 | ccc | 24 |

QUESTION 9:

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

SOLUTION:

```
import pandas as pd
x=pd.date_range("01-01-2023","10-01-2023")
print(x)
```

OUTPUT:

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

```
[ ] import pandas as pd
x=pd.date_range("01-01-2023","10-02-2023")
print(x)
```

```
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')
```

QUESTION 10:

Create 2D list to DataFrame

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

SOLUTION:

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]  
df=pd.DataFrame(lists,columns=['SNo','Name', 'Age'],  
dtype=str) print(df)
```

OUTPUT:

```
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]]  
df = pd.DataFrame(lists, columns =['SNo', 'Name', 'Age'],  
dtype = str)  
print(df)
```

| | SNo | Name | Age |
|---|-----|------|-----|
| 0 | 1 | aaa | 22 |
| 1 | 2 | bbb | 25 |
| 2 | 3 | ccc | 24 |