

1. Split this string

```
✓ [11] s="Hi there Sam!"  
0s      x=s.split()  
        print(x)  
  
    ['Hi', 'there', 'Sam!']
```

2. Use .format() to print the following string. Output should be: The diameter of Earth is 12742 kilometers.

```
✓ [2] planet = "Earth"  
0s      diameter = 12742  
        print("The diameter of {} is {}".format(planet,diameter))  
  
    The diameter of Earth is 12742.
```

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

```
✓ [4] d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}  
0s      print(d['k1'][3]['tricky'][3]['target'][3])  
  
    hello
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
✓ [7] import numpy as np  
is arr=np.zeros(10)  
    print("The array containing 10 zeroes is given by:",arr)
```

↳ The array containing 10 zeroes is given by: [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

```
✓ [9] import numpy as np  
is arr=np.ones(10)*5  
    print("The array containing 10 nos of fives is given by:",arr)
```

The array containing 10 nos of fives is given by: [5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]

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

```
✓ [12] import numpy as np  
js arr=np.arange(20,36,2)  
    print("The array containing even numbers in range 20 to 35:",arr)
```

The array containing even numbers in range 20 to 35: [20 22 24 26 28 30 32 34]

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

```
✓ [14] import numpy as np  
0s x=np.arange(0,9).reshape(3,3)  
    print("The 3*3 matrix is given as:")  
    print(x)
```

The 3*3 matrix is given as:

```
[[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])

✓
0s

```
[▶] a = np.array([1, 2, 3])  
b = np.array([4, 5, 6])  
print("Array a:",a)  
print("Array b:",b)  
print("Concatinated array:",np.concatenate((a,b)))
```

↳ Array a: [1 2 3]
Array b: [4 5 6]
Concatinated array: [1 2 3 4 5 6]

8.Create a dataframe with 3 rows and 2 columns

✓
0s

```
[▶] import pandas as pd  
data = [['a', 1], ['b', 2], ['c', 3]]  
df = pd.DataFrame(data, columns=['letter', 'Number'])  
  
df
```

↳

	letter	Number
0	a	1
1	b	2
2	c	3

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

```
import pandas as pd

per1 = pd.date_range(start='1-1-2023',
                      end='10-02-2023', freq='5H')

for val in per1:
    print(val)
```

2023-01-01 00:00:00
 2023-01-01 05:00:00
 2023-01-01 10:00:00
 2023-01-01 15:00:00
 2023-01-01 20:00:00
 2023-01-02 01:00:00
 2023-01-02 06:00:00
 2023-01-02 11:00:00
 2023-01-02 16:00:00
 2023-01-02 21:00:00
 2023-01-03 02:00:00
 2023-01-03 07:00:00
 2023-01-03 12:00:00
 2023-01-03 17:00:00
 2023-01-03 22:00:00
 2023-01-04 03:00:00
 2023-01-04 08:00:00
 2023-01-04 13:00:00
 2023-01-04 18:00:00
 2023-01-04 23:00:00
 2023-01-05 04:00:00
 2023-01-05 09:00:00
 2023-01-05 14:00:00
 2023-01-05 19:00:00
 2023-01-06 00:00:00
 2023-01-06 05:00:00
 2023-01-06 10:00:00
 2023-01-06 15:00:00
 2023-01-06 20:00:00
 2023-01-07 01:00:00
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10. Create 2D list to DataFrame

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

```
✓ [22] # Import pandas library  
0s      import pandas as pd  
  
      # initialize list of lists  
      lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]  
  
      # Create the pandas DataFrame  
      df = pd.DataFrame(lists, columns = ['Number', 'Name', 'Age'])  
  
      # print dataframe.  
      print(df )
```

```
➡
```

	Number	Name	Age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24