

## ▼ Basic Python

### ▼ 1. Split this string

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

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

```
g=s.split()
```

```
g
```

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

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

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

```
planet = "Earth"
```

```
diameter = 12742
```

```
planet="Earth"
```

```
diameter=12742
```

```
"The diameter of the {} is {} kilometers.".format(planet,diameter)
```

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

```
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']}]}]}
```

```
d['k1'][3]['tricky'][3]['target'][3]
```

## ▼ Numpy

```
import numpy as np
```

## ▼ 4.1 Create an array of 10 zeros?

## 4.2 Create an array of 10 fives?

```
import numpy as np
np.zeros(10)
([0.,0.,0.,0.,0.,0.,0.,0.,0.,0.])

[0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0]

np.ones(10)*5
([5.,5.,5.,5.,5.,5.,5.,5.,5.,5.])

[5.0, 5.0, 5.0, 5.0, 5.0, 5.0, 5.0, 5.0, 5.0, 5.0][5.0, 5.0, 5.0, 5.0, 5.0, 5.0,
5.0, 5.0, 5.0, 5.0]
```

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

```
import numpy as np
array=np.arange(20,35,2)
print("Array of all the even integers from 30 to 70")
print(array)

Array of all the even integers from 30 to 70
[20 22 24 26 28 30 32 34]
```

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

```
np.arange(0,9).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])
```

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

```
c=np.concatenate((a,b))
print(c)
```

```
[1 2 3 4 5 6]
```

## ▼ Pandas

### ▼ 8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
import pandas as pd
A=['a','b','c']
DataFrame=pd.DataFrame(A,columns=['alphabets'])
DataFrame
```

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

```
import pandas as pd
from dateutil.parser import parse
date_series=pd.Series(['Jan 2015','Mar 2017','Apr 2018','May 2019'])
print("original series:")
print(date_series)
print("\nNew dates:")
result=date_series.map(lambda d: parse('11'+d))
print(result)
```

```
original series:
0    Jan 2015
1    Mar 2017
2    Apr 2018
3    May 2019
dtype: object
```

```
New dates:
0    2015-01-11
1    2017-03-11
```

```
2    2018-04-11
3    2019-05-11
dtype: datetime64[ns]
```

## ▼ 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]]
```

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
d_list=pd.DataFrame(lists,columns=['A','B','C'])
d_list
```

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