

## Basic Python

### 1. Split this string

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

```
planet = "Earth"
diameter = 12742

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

The diameter ofEarth is 12742kilometers.

### 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']}]}]}
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?

```
import numpy as np
np.zeros(10)

array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])

import numpy as np
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

```
import numpy as np
array=np.arange(20,36,2)
print(" Array of all the integers from 20 to 35")
print(array)
```

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

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

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

```
[[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])
arr=np.concatenate((a,b))
print(arr)
```

```
[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
data=[[0,1],[2,3],[4,5]]
df=pd.DataFrame(data)
print(df)
```

```
   0  1
0  0  1
1  2  3
2  4  5
```

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

```
import pandas as pd
per1=pd.date_range(start='01-01-2023',end='10-02-2023')
for val in per1:
    print(val)
```

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```

## 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
list=[[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df=pd.DataFrame(list)
print(df)
```

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