## Basic Python

▼ 1. Split this string

```
s = "Hi there Sam!"
s.split()
    ['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
print( 'The diameter of {} is {} kilometers.' .format(planet,diameter));
    The diameter of Earth is 12742 kilometers.
```

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

Numpy

```
import numpy as np
```

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

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

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

- ▼ 4.1 Create an array of 10 zeros?
  - 4.2 Create an array of 10 fives?

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

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

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

## Pandas import pandas as pd data = { "calories": [420, 380, 390], "duration": [50, 40, 45] } #load data into a DataFrame object: df = pd.DataFrame(data) print(df) calories duration 420 50 1 380 40 390 45

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='2-10-2023')
for val in per1:
   print(val)
     2023-01-01 00:00:00
     2023-01-02 00:00:00
     2023-01-03 00:00:00
     2023-01-04 00:00:00
     2023-01-05 00:00:00
     2023-01-06 00:00:00
     2023-01-07 00:00:00
     2023-01-08 00:00:00
     2023-01-09 00:00:00
     2023-01-10 00:00:00
     2023-01-11 00:00:00
     2023-01-12 00:00:00
     2023-01-13 00:00:00
     2023-01-14 00:00:00
     2023-01-15 00:00:00
     2023-01-16 00:00:00
     2023-01-17 00:00:00
     2023-01-18 00:00:00
     2023-01-19 00:00:00
     2023-01-20 00:00:00
     2023-01-21 00:00:00
     2023-01-22 00:00:00
     2023-01-23 00:00:00
     2023-01-24 00:00:00
     2023-01-25 00:00:00
     2023-01-26 00:00:00
     2023-01-27 00:00:00
```

2023-01-28 00:00:00

```
2023-01-29 00:00:00
2023-01-30 00:00:00
2023-02-01 00:00:00
2023-02-02 00:00:00
2023-02-03 00:00:00
2023-02-04 00:00:00
2023-02-05 00:00:00
2023-02-06 00:00:00
2023-02-07 00:00:00
2023-02-08 00:00:00
2023-02-09 00:00:00
2023-02-10 00:00:00
```

## ▼ 10. Create 2D list to DataFrame