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|---|---|
| Project Name | AI-powered Nutrition Analyzer for fitness Enthusiasts |
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# Basic Python

- **Split this string**

```
s = "Hi there

Sam!"s.split()
```

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

- **Use .format() to print the following string.**

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

```
planet =
"Earth"
diameter =
12742

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

```
The diameter of Eath is 12742 kilometers
```

- **In this nest dictionary grab the word "hello"**

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

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

```
[3]'hello'
```

# Numpy

```
import numpy as np
```

- **Create an array of 10 zeros?**
- **Create an array of 10 fives?**

```
np.zeros(10)*0
```

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

```
np.ones(10)*5
```

```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

```
np.arange(20,36,2)
```

```
array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

```
a=np.arange(0,9)
print(a.reshape(3,
3))
```

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

- **Concatinate a and b**

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

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

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

- **Create a dataframe with 3 rows and 2 columns**

```
import pandas as
pdimport numpy
as np

d=np.arange(0,3)
df=pd.DataFrame(d,columns=['numbers'])
print(df)
```

```
   numbers
0        0
1        1
2        2
```

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

```
from datetime import datetime
pd.date_range(start="2023-01-01",end="2023-
02-10").to_pydatetime().tolist()
```

```
[datetime.datetime(2023, 1, 1, 0, 0),
 datetime.datetime(2023, 1, 2, 0, 0),
 datetime.datetime(2023, 1, 3, 0, 0),
 datetime.datetime(2023, 1, 4, 0, 0),
 datetime.datetime(2023, 1, 5, 0, 0),
```

| | | | |
|---|---|---|---|
| datetime.datetime(2023, | 1, | 6, 0, 0), | |
| datetime.datetime(2023, | 1, | 7, 0, 0), | |
| datetime.datetime(2023, | 1, | 8, 0, 0), | |
| datetime.datetime(2023, | 1, | 9, 0, 0), | |
| datetime.datetime(2023, | 1, | 10, 0, 0), | |
| datetime.datetime(2023, | 1, | 11, 0, 0), | |
| datetime.datetime(2023, | 1, | 12, 0, 0), | |
| datetime.datetime(2023, | 1, | 13, 0, 0), | |

| | | | | |
|---|---|---|---|---|
| datetime.datetime(2023, | 1, | 14, | 0, | 0), |
| datetime.datetime(2023, | 1, | 15, | 0, | 0), |
| datetime.datetime(2023, | 1, | 16, | 0, | 0), |
| datetime.datetime(2023, | 1, | 17, | 0, | 0), |
| datetime.datetime(2023, | 1, | 18, | 0, | 0), |
| datetime.datetime(2023, | 1, | 19, | 0, | 0), |
| datetime.datetime(2023, | 1, | 20, | 0, | 0), |
| datetime.datetime(2023, | 1, | 21, | 0, | 0), |
| datetime.datetime(2023, | 1, | 22, | 0, | 0), |
| datetime.datetime(2023, | 1, | 23, | 0, | 0), |
| datetime.datetime(2023, | 1, | 24, | 0, | 0), |
| datetime.datetime(2023, | 1, | 25, | 0, | 0), |
| datetime.datetime(2023, | 1, | 26, | 0, | 0), |
| datetime.datetime(2023, | 1, | 27, | 0, | 0), |
| datetime.datetime(2023, | 1, | 28, | 0, | 0), |
| datetime.datetime(2023, | 1, | 29, | 0, | 0), |
| datetime.datetime(2023, | 1, | 30, | 0, | 0), |
| datetime.datetime(2023, | 1, | 31, | 0, | 0), |
| datetime.datetime(2023, | 2, | 1, 0, 0), | | |
| datetime.datetime(2023, | 2, | 2, 0, 0), | | |
| datetime.datetime(2023, | 2, | 3, 0, 0), | | |
| datetime.datetime(2023, | 2, | 4, 0, 0), | | |
| datetime.datetime(2023, | 2, | 5, 0, 0), | | |
| datetime.datetime(2023, | 2, | 6, 0, 0), | | |
| datetime.datetime(2023, | 2, | 7, 0, 0), | | |
| datetime.datetime(2023, | 2, | 8, 0, 0), | | |
| datetime.datetime(2023, | 2, | 9, 0, 0), | | |
| datetime.datetime(2023, | 2, | 10, 0, 0)] | | |

- ## 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=['identity','tag','numbers'])
print(df)
```

```
   identity  tag
numbers0  1  aaa       22
1         2  bbb       25
2         3  ccc       24
```