Project Name	A Novel Method For Handwritten Recognition System
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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

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

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

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'][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?

```
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.])
```

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])
```

6. 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]]
```

7. 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]
```

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
import numpy as np

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

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

9. 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)]
```

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]]

df=pd.DataFrame(lists,columns=['identity','tag','numbers'])
print(df)
```

```
   identity  tag  numbers
0         1  aaa       22
1         2  bbb       25
2         3  ccc       24
```