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BASIC PYTHON

1. SPLIT THIS STRING

In [4]:

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

In [103]:

```
m=s.split()
print(m)
['Hi', 'there', 'Sam!']
```

2. USE .FORMAT() TO PRINT THE FOLLOWING STRING.

OUTPUT SHOULD BE: THE DIAMETER OF EARTH IS 12742 KILOMETERS.

In [3]:

```
planet = "Earth"
diameter = 12742
```

In [9]:

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

3. IN THIS NEST DICTIONARY GRAB THE WORD "HELLO"

In [38]:

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

In [87]:

```
k=d['k1'][3]['tricky'][3]['target'][3]
print(k)
hello
```

NUMPY

In [ ]:

```
import numpy as np
```

4.1 CREATE AN ARRAY OF 10 ZEROS?

4.2 CREATE AN ARRAY OF 10 FIVES?

In [16]:

```
a=[]
for i in range(10):
    a.append(0)
```

```
print(a)
[0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
```

In [17]:

```
a=[]
for i in range(10):
    a.append(5)
print(a)
[5, 5, 5, 5, 5, 5, 5, 5, 5, 5]
```

5. CREATE AN ARRAY OF ALL THE EVEN INTEGERS FROM 20 TO 35

In [19]:

```
a=[]
for i in range(20,36):
    if(i%2==0):
        a.append(i)
print(a)
[20, 22, 24, 26, 28, 30, 32, 34]
```

6. CREATE A 3X3 MATRIX WITH VALUES RANGING FROM 0 TO 8

In [47]:

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

In [88]:

```
import numpy as np
a=np.array([1,2,3])
b=np.array([4,5,6])
p=np.concatenate((a,b),axis=None)
print(p)
[1 2 3 4 5 6]
```

PANDAS

8. CREATE A DATAFRAME WITH 3 ROWS AND 2 COLUMNS

In [66]:

```
import pandas as pd
```

In [85]:

```
df=pd.DataFrame(index=[1,2],columns=[1,2,3])
print(df)
     1    2    3
1  NaN  NaN  NaN
```

```
2  NaN  NaN  NaN
```

9. GENERATE THE SERIES OF DATES FROM 1ST JAN, 2023 TO 10TH FEB, 2023

In [89]:

```
import pandas as pd
l=pd.date_range('2023-01-01','2023-02-10')
print(l)
DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
               '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
               '2023-01-09', '2023-01-10', '2023-01-11', '2023-01-12',
               '2023-01-13', '2023-01-14', '2023-01-15', '2023-01-16',
               '2023-01-17', '2023-01-18', '2023-01-19', '2023-01-20',
               '2023-01-21', '2023-01-22', '2023-01-23', '2023-01-24',
               '2023-01-25', '2023-01-26', '2023-01-27', '2023-01-28',
               '2023-01-29', '2023-01-30', '2023-01-31', '2023-02-01',
               '2023-02-02', '2023-02-03', '2023-02-04', '2023-02-05',
               '2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09',
               '2023-02-10'],
              dtype='datetime64[ns]', freq='D')
```

10. CREATE 2D LIST TO DATAFRAME

lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]

In [90]:

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [102]:

```
import pandas as pd
lists=[['aaa',22],['bbb',25],['ccc',24]]
m=pd.DataFrame(lists,columns=[0,1])
print(m)
     0   1
0  aaa  22
1  bbb  25
2  ccc  24
```