Basic Python

1. Split this string

In [3]:
```
s = "Hi there Sam!"
```

In [4]:
```
arr=s.split(" ")
for i in arr:
    print(i)
#print(arr)
```

```
Hi
there
Sam!
```

2. Use .format() to print the following string.

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

In [5]:
```
planet = "Earth"
diameter = 12742
```

In [6]:
```
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 [7]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

In [8]:
```
d["k1"][3]["tricky"][3]["target"][3]
```

Out[8]:
```
'hello'
```

Numpy

In [10]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [11]:
```
np.zeros(10)
```

Out[11]:
```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

In [12]:
```
np.ones(10)*5
```

Out[12]:
```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

In [13]:
```
np.ones(10)*5
```

Out[13]:
```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

In [14]:
```
np.arange(0,9).reshape(3,3)
```

Out[14]:
```
array([[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])

In [15]:
```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
np.array([a,b]).reshape(1,-1),np.concatenate((a,b),axis=0)
```

Out[15]:
```
(array([[1, 2, 3, 4, 5, 6]]), array([1, 2, 3, 4, 5, 6]))
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [16]:
```
import pandas as pd
```

In [21]:
```
pd.DataFrame(np.array([[1,2],[3,4],[5,6]]),columns=['a','b'])
```

Out[21]:

	a	b
0	1	2
1	3	4
2	5	6

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

In [22]:
```
pd.date_range(start="2023-01-01",end="2023-02-10")
```

Out[22]:
```
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 [23]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [24]:
```
pd.DataFrame(lists)
```

Out[24]:

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

In [ ]:
```

```