Basic Python

1. Split this string

Output should be a List: ['Hi', 'there', 'Sam!']

In [4]:
```
s='hi there sam!'
```

In [5]:
```
s.split()
```

Out[5]:
```
['hi', 'there', 'sam!']
```

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

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

In [6]:
```
planet = "Earth"
diameter = 12742
```

In [7]:
```
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"

In [14]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

In [15]:
```
d['k1'][3]['tricky'][3]['target'][3]
```

Out[15]:
```
'hello'
```

Numpy

In [8]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [9]:
```
array=np.zeros(10)
```

In [10]:
```
print(array)
```

```
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

In [11]:
```
array=np.ones(10)*5
```

In [12]:
```
print(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 [16]:
```
array=np.arange(20,35,2)
```

In [18]:
```
print("Array of all the even integers")
print(array)
```

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

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

In [20]:
```
x=np.arange(0,9).reshape(3,3)
print(x)
```

```
[[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 [25]:
```
a=np.array([1,2,3])
b=np.array([4,5,6])
np.concatenate((a,b),axis=0)
```

Out[25]:
```
array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [26]:
```
import pandas as pd
```

In [29]:
```
 # initialize data of lists.

data = {'Name': ['ann', 'arun', 'kiran'],

        'Age': [20, 21, 19]}

# Create DataFrame

df = pd.DataFrame(data)

# Print the output.
df
```

Out[29]:

	Name	Age
0	ann	20
1	arun	21
2	kiran	19

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

In [46]:
```
import pandas as pd
per1 = pd.date_range(start ='01-01-2023',end='02-10-2023', freq ='d')
print(per1)
```

```
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 [8]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [9]:
```
df=pd.DataFrame(lists)
df
```

Out[9]:

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

In [ ]:
```

```