Basic Python

1. Split this string

In [2]:
```
s = "Hi there prakash!"
```

In [3]:
```
x = s.split()
print(x)
```

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

italicized text## 2. Use .format() to print the following string.

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

In [4]:
```
planet = "Earth"
diameter = 12742
```

In [5]:
```
txt = "The diameter of {planet} is {diameter} kilometers".format(planet =
"Earth",diameter = 12742)
print(txt)
```

```
The diameter of Earth is 12742 kilometers
```

3. In this nest dictionary grab the word "hello"

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

In [7]:
```
print(d['k1'][3]['tricky'][3]['target'][3])
```

```
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)
print("The array of 10 Zeros are:")
print(array)
```

```
The array of 10 Zeros are:
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

In [10]:

```
array = np.ones(10)*5
print("The array of 10 Fives are:")
print(array)
```

```
The array of 10 Fives are:
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

In [12]:

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

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

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

In [13]:

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

```
[[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 [14]:

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

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [15]:

```
import pandas as pd
```

In [17]:

```
data = [['prakash', 20], ['rajesh', 19], ['aakash', 19]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
print(df)
```

```
      Name  Age
0  prakash   20
1   rajesh   19
2   aakash   19
```

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

In [18]:

```
pd.date_range(start='1/1/2023', end='02/10/2023')
```

Out[18]:

```
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 [19]:

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

In [20]:

```
df = pd.DataFrame(lists, columns =['S.No', 'Name', 'Age'])
print(df)
```

```
   S.No Name  Age
0     1  aaa   22
1     2  bbb   25
2     3  ccc   24
```