Basic Python

1. Split this string

In [10]:
```
s = "Hi there Sam!"
```

In [11]:
```
w=s.split(" ")
print(w)
```

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

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

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

In [12]:
```
planet = "Earth"
diameter = 12742
```

In [13]:
```
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 [16]:
```
w=d['k1'][3]['tricky'][3]['target'][3]
print(w)
```

```
hello
```

Numpy

In [17]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [18]:
```
arr=np.zeros(10)
print(arr)
```

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

In [19]:

```
arr=np.ones(10)*5
print(arr)
```

```
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

In [20]:

```
arr=np.arange(20,35,2)
print(arr)
```

```
[20 22 24 26 28 30 32 34]
```

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

In [22]:

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

```
[[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])
carr=np.concatenate((a,b),axis=0)
print(carr)
```

```
[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]:

```
data=[['kaviya',13],['keerthana',14],['ranjith',34]]
df=pd.DataFrame(data,columns=['Name','Reg.No'])
df
```

Out[29]:

	Name	Reg.No

	Name	Reg.No
0	kaviya	13
1	keerthana	14
2	ranjith	34

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

In [35]:

```
df = pd.DataFrame()

df['Date'] = pd.date_range(start="1/1/2023",end="2/10/2023")


df.head(len(df["Date"]))
```

Out[35]:

	Date
0	2023-01-01
1	2023-01-02
2	2023-01-03
3	2023-01-04
4	2023-01-05
5	2023-01-06
6	2023-01-07
7	2023-01-08
8	2023-01-09

	Date
9	2023-01-10
10	2023-01-11
11	2023-01-12
12	2023-01-13
13	2023-01-14
14	2023-01-15
15	2023-01-16
16	2023-01-17
17	2023-01-18
18	2023-01-19
19	2023-01-20
20	2023-01-21
21	2023-01-22
22	2023-01-23
23	2023-01-24
24	2023-01-25
25	2023-01-26
26	2023-01-27
27	2023-01-28

	Date
28	2023-01-29
29	2023-01-30
30	2023-01-31
31	2023-02-01
32	2023-02-02
33	2023-02-03
34	2023-02-04
35	2023-02-05
36	2023-02-06
37	2023-02-07
38	2023-02-08
39	2023-02-09
40	2023-02-10

10. Create 2D list to DataFrame

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

In [36]:

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

In [38]:

```
df=pd.DataFrame(lists, columns=['Sno','Name','Age']);
print(df)
```

```
   Sno Name  Age
0    1  aaa   22
1    2  bbb   25
2    3  ccc   24
```