Basic Python

1. Split this string

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

In [2]:
```
s="Hi there Sam!"
x=s.split()
print(x)
```

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

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

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

In [1]:
```
text="The diameter of {planet} is {diameter} kilometers".format(planet = "Earth"
,diameter = 12742)
print(text)
```

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

In [ ]:
```

```

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

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

In [4]:
```
print(d['k1'][3]['tricky'][3]['target'][3])
```

```
hello
```

Numpy

In [5]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [6]:
```
array=np.zeros(10)
print('The array of 10 zeros');
print(array);
```

```
The array of 10 zeros
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

In [7]:
```
array=np.ones(10)*5
print('The array of 10 fives');
print(array);
```

```
The array of 10 fives
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

In [10]:
```
import numpy as np
array=np.arange(20,35,2);
print('The array of all even integers from 20 to 35 are:');
print(array)
```

```
The array of all even integers from 20 to 35 are:
[20 22 24 26 28 30 32 34]
```

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

In [11]:
```
import numpy as np
y=np.arange(0,9).reshape(3,3)
print(y)
```

```
[[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 [1]:
```
import numpy as np
a = np.array([1, 2, 3]);
b = np.array([4, 5, 6]);
concat=np.concatenate((a,b))
print(concat)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [2]:
```
import pandas as pd
data=[['moni',5],['sowmi',9],['lav',11]]
df=pd.DataFrame(data,columns=['NAME','AGE'])
print(df)
```

```
    NAME  AGE
0   moni    5
1  sowmi    9
2    lav   11
```

In [ ]:
```

```

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

In [3]:
```
import pandas as pd
dates=pd.date_range(start='1-1-2023',end='02-10-2023')
for val in dates:
    print(val)
```

```
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
2023-01-20 00:00:00
2023-01-21 00:00:00
2023-01-22 00:00:00
2023-01-23 00:00:00
2023-01-24 00:00:00
2023-01-25 00:00:00
2023-01-26 00:00:00
2023-01-27 00:00:00
2023-01-28 00:00:00
2023-01-29 00:00:00
2023-01-30 00:00:00
2023-01-31 00:00:00
2023-02-01 00:00:00
2023-02-02 00:00:00
2023-02-03 00:00:00
2023-02-04 00:00:00
2023-02-05 00:00:00
2023-02-06 00:00:00
2023-02-07 00:00:00
2023-02-08 00:00:00
2023-02-09 00:00:00
2023-02-10 00:00:00
```

10. Create 2D list to DataFrame

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

In [4]:
```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df=pd.DataFrame(lists,columns=['REGNO','NAME','SEATNO'])
print(df)
```

```
   REGNO NAME  SEATNO
0      1  aaa      22
1      2  bbb      25
2      3  ccc      24
```

In [ ]:
```

```