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 [ ]:
```
planet = "Earth"
diameter = 12742
```
In [29]:
```
txt="The diameter of Earth is 12742 kilometers"
print(txt.format(kilometer=12742))
```
```
The diameter of Earth is 12742 kilometers
```
3. In this nest dictionary grab the word "hello"¶

In [ ]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```
In [4]:
```
 d['k1'][3]['tricky'][3]['target'][3]
```
Out[4]:
```
'hello'
```
Numpy¶

In [ ]:
```
import numpy as np
```
4.1 Create an array of 10 zeros?¶

4.2 Create an array of 10 fives?¶

In [5]:
```
import numpy as np
array=np.zeros(10)
print("An array of 10 zeros:")
print(array)
```
```
An array of 10 zeros:
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```
In [6]:
```
import numpy as np
array=np.ones(10)*5
print("An array of 10 fives:")
print(array)
```
```
An 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 [7]:

```
import numpy as np
array=np.arange(20,36,2)
print("Array of all the even integers from 20 to 35")
print(array)
Array of all the even integers from 20 to 35
[20 22 24 26 28 30 32 34]
```

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

In [8]:

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


print(arr)
[[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 [15]:

```
import numpy as np
a = np.array([[1, 2, 3], [4, 5, 6]])
b = np.array([[9, 8, 7], [6, 5, 4]])
np.concatenate((a, b))
```

Out[15]:

```
array([[1, 2, 3],
       [4, 5, 6],
       [9, 8, 7],
       [6, 5, 4]])
```

Pandas¶

8. Create a dataframe with 3 rows and 2 columns¶

In [ ]:

```
import pandas as pd
```

In [16]:

```
import pandas as pd
data = [10,20,30]
df = pd.DataFrame(data, columns=['Numbers'])
df
```

Out[16]:

	Numbers
0	10
1	20
2	30

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

In [26]:

```
base = datetime.datetime.today()
date_list = [base - datetime.timedelta(days=x) for x in range(numdays)]
```

In [ ]:

```
## 10. Create 2D list to DataFrame

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

In [ ]:

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

In [27]:

```
import pandas as pd
a = [[1,2],[3,5,6]]
print(type(a))

for b in a:
    for j in b:
        print(j)

dt=zip(a)
df=pd.DataFrame(dt,columns=["d"])
print(type(df))
print(df)
<class 'list'>
1
2
3
5
6
<class 'pandas.core.frame.DataFrame'>
           d
0     [1, 2]
1  [3, 5, 6]
```

In [ ]: