Basic Python

1. Split this string

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

In [3]:
```
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 [7]:
```
planet = "Earth"
diameter = 12742
print("The diameter of " + planet + " is "+ str(diameter) +" kilometers")
```

```
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 [9]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']
x = d['k1'][3]['tricky'][3]['target'][3]
print(x)
```

```
hello
```

Numpy

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

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [10]:
```
import numpy as np
arr = np.zeros(10)
print(arr)
```

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

In [12]:
```
import numpy as np
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 [14]:
```
import numpy as np
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 [17]:
```
import numpy as np
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 [20]:
```
import numpy as np
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 [ ]:
```
import pandas as pd
```

In [22]:
```
import pandas as pd
data = [['Ravi', 25],['Grishim',50],['Rahul',45]]
df = pd.DataFrame(data, columns =['Name','Score(out of 50)'])
print(df)
```

```
      Name  Score(out of 50)
0     Ravi                25
1  Grishim                50
2    Rahul                45
```

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

In [24]:
```
import pandas as pd
dates = pd.date_range(start ='01-01-2023', end ='02-10-2023')
for i in dates:
  print(i)
```

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

In [30]:
```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
data = pd.DataFrame(data)
print(data)
```

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