Basic Python

1. Split this string

In [ ]:

```
s = "Hi there Sam!"
```

In [2]:

```
s = "Hi there Sam!"
print(s.split())
```

```
['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 [3]:

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

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

In [4]:

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

```
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 [8]:

```
import numpy as np
array=np.arange(20,35,2)
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 [9]:

```
import numpy as np
x =  np.arange(2, 11).reshape(3,3)
print(x)
```

```
[[ 2  3  4]
 [ 5  6  7]
 [ 8  9 10]]
```

7. Concatenate a and b

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

In [10]:

```
import numpy as np

arr1 = np.array([1, 2, 3])

arr2 = np.array([4, 5, 6])

arr = np.concatenate((arr1, arr2))

print(arr)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

8. Create a dataframe with 3 rows and 2 columns

In [ ]:

```
import pandas as pd
```

In [11]:

```
import pandas as pd

data = {'Name': ['Tom', 'nick', 'krish'],

        'Age': [20, 21, 19]}


df = pd.DataFrame(data)

df
```

Out[11]:

	Name	Age
0	Tom	20
1	nick	21
2	krish	19

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

In [12]:

```
import datetime

import pandas as pd


test_date = datetime.datetime.strptime("01-1-2023", "%d-%m-%Y")


K = 41


date_generated = pd.date_range(test_date, periods=K)

print(date_generated.strftime("%d-%m-%Y"))
```

```
Index(['01-01-2023', '02-01-2023', '03-01-2023', '04-01-2023', '05-01-2023',
       '06-01-2023', '07-01-2023', '08-01-2023', '09-01-2023', '10-01-2023',
       '11-01-2023', '12-01-2023', '13-01-2023', '14-01-2023', '15-01-2023',
       '16-01-2023', '17-01-2023', '18-01-2023', '19-01-2023', '20-01-2023',
       '21-01-2023', '22-01-2023', '23-01-2023', '24-01-2023', '25-01-2023',
       '26-01-2023', '27-01-2023', '28-01-2023', '29-01-2023', '30-01-2023',
       '31-01-2023', '01-02-2023', '02-02-2023', '03-02-2023', '04-02-2023',
       '05-02-2023', '06-02-2023', '07-02-2023', '08-02-2023', '09-02-2023',
       '10-02-2023'],
      dtype='object')
```

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 [13]:

```
import pandas as pd
lists = [[ 'aaa', 22], ['bbb', 25], ['ccc', 24]]


df = pd.DataFrame(lists, columns =['Tag', 'number'])

print(df )
```

```
   Tag  number
0  aaa      22
1  bbb      25
2  ccc      24
```