Basic Python

1. Split this string

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

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

Out[2]:
```
['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 [4]:
```
r="The diameter of {plar
r
```

Out[4]:
```
'The diameter of Earth i
s 12742 kilometers.'
```

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

In [44]:
```
d = {'k1':[1,2,3,{'trick
a=d['k1'][3]['tricky'][3
a
```

Out[44]:
```
'hello'
```

In [ ]:
```

```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [11]:
```
import numpy as np
np.zeros(10)
```

Out[11]:
```
array([0., 0., 0., 0.,
0., 0., 0., 0., 0., 0.])
```

In [12]:
```
np.linspace(5,5,10)
```

Out[12]:
```
array([5., 5., 5., 5.,
5., 5., 5., 5., 5., 5.])
```

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

In [16]:
```
np.arange(20,35,2)
```


Out[16]:
```
array([20, 22, 24, 26, 2
8, 30, 32, 34])
```

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

In [19]:
```
z=np.arange(9)
z.reshape(3,3)
```

Out[19]:
```
array([[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 [21]:

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

Out[21]:

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [ ]:
```
import pandas as pd
```

In [45]:
```
import pandas as pd
a= [0,1]
b=[2,3]
c=[4,5]
pd.DataFrame([a,b,c])
```

Out[45]:

	0	1
0	0	1
1	2	3
2	4	5

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

In [48]:

```
import pandas as pd
date=pd.to_datetime("1st
dateseries=date+pd.to_ti
data=pd.DataFrame(datese
data
```

Out[48]:

	Dates
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
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
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 [39]:
```
lists = [[1, 'aaa', 22],
lst=pd.DataFrame(lists)
lst
```

Out[39]:

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

In [ ]: