Basic Python

1. Split this string

In [ ]:

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

In [ ]:

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

Out[ ]:

```
['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 [ ]:

```
planet = "Earth"
diameter = 12742
print(f"The diameter of {planet} is {diameter} kilometer")
```

```
The diameter of Earth is 12742 kilometer
```

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 [ ]:

```
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 [ ]:

```
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 [ ]:

```
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 [ ]:

```
import numpy as np
array=np.arange(20,36,2)
print("Array of th even integer from 20 to 36")
print(array)
```

```
Array of th even integer from 20 to 36
[20 22 24 26 28 30 32 34]
```

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

In [ ]:

```
import numpy as np
x=np.arange(0,9).reshape(3,3)
print(x)
```

```
[[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 [ ]:

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

```
[5 7 9]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [ ]:

```
import pandas as pd
```

```
import pandas as pd
import numpy as np
A= np.random.randint(10,size=(3,2))
print(A)
```

```
[[2 4]
 [9 9]
 [9 4]]
```

In [ ]:

```

```

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

In [ ]:

```
import pandas as pd

pd=pd.date_range(start='1/01/2023',end='10/02/2023')
print(pd)
```

```
DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
               '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
               '2023-01-09', '2023-01-10',
               ...
               '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
               '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
               '2023-10-01', '2023-10-02'],
              dtype='datetime64[ns]', length=275, freq='D')
```

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 [ ]:

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df=pd.DataFrame(lists,columns=['Num','Char','value'])
print(df)
```

```
   Num Char  value
0    1  aaa     22
1    2  bbb     25
2    3  ccc     24
```

In [ ]:

```

```