

Basic Python

1. Split this string

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

Hi there Sam!

```
t = "Hi there not Sam!"  
y = t.split()  
print(y)
```

```
['Hi', 'there', 'not', 'Sam!']
```

2. Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

```
planet = "Earth"  
diameter = 12742  
print(txt.format(planet))
```

```
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-----  
NameError                                Traceback (most recent call  
last)  
<ipython-input-18-16350e0b6048> in <module>  
      1 planet = "Earth"  
      2 diameter = 12742  
----> 3 print(txt.format(planet))  
  
NameError: name 'txt' is not defined
```

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

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

Numpy

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
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.]
```

```
import numpy as np
array=np.ones(10)*5
print("an array of 10 :")
print(array)
```

```
an array of 10 :
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
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

```
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])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
data = {'name':['tom', 'nick', 'krish'], 'age':[20,21,19]}
df= pd.DataFrame(data)
print(df)
```

	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

```
import pandas as pd
pd.date_range(start='01/01/2023',end='10/02/2023')

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]]

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

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

```
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-----
NameError                                Traceback (most recent call
last)
<ipython-input-43-bd8219eafd2c> in <module>
----> 1 df=pd.DataFrame(lst ,columns=['tag' , 'number'])

NameError: name 'lst' is not defined
```