Basic Python

1. Split this string

```
s = "Hi there Sam!"

print(s.split())
```

```
['Hi', 'there', 'Sam!']
```

italicized text ## 2. Use .format() to print the following string.

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

```
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"

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

print(d['k1'][3]['tricky'][3]['target'][3])
```

```
hello
```

Numpy

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
a=0
while a<10:
  (print('0'))
  a=a+1
```

```
0
0
0
0
0
0
0
0
0
0
```

```
a=0
while a<10:
  (print('5'))
  a=a+1
```

```
5
5
5
5
5
5
5
5
5
5
```

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

```
a=20
while a<35:
  print(a)
  a=a+2
```

```
20
22
24
26
28
30
32
34
```

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

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

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

7. Concatinate a and b

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

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

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
pd.DataFrame([1,2,3,4,5,6])
```

	0
0	1
1	2
2	3
3	4
4	5
5	6

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

```
import datetime
import pandas as pd
```

```
start=datetime.datetime.strptime("01-01-2023","%d-%m-%Y")
print(pd.date_range(start,periods=5).strftime("%d-%m-%Y"))
```

```
Index(['01-01-2023', '02-01-2023', '03-01-2023', '04-01-2023', '05-01-2023'], dtype=
```

10. Create 2D list to DataFrame

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

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

```
print(pd.DataFrame(lists))
```

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