Basic Python

1. Split this string

```
s = "Hi there Sam!"

s=s.split()
print(s)
```

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 {} is {} kilometers.'.format(planet,diameter));
```

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

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

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

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(18)
 print("Array of 10 zeros: ")
 print(array)

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

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 even integers from 20 to 35")
 print(array)
```

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

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

7. Concatenate a and b

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

```
np.concatenate ((a,b), axis=None))
 ([1,2,3,4,5,6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
import pandas as np
 X=np.random.randint(10, size=(3,2))
  X array([[2, 4], [6,8], [10 12]])
```

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

```
import pandas as pd
 p = pd.date_range (start = '1-01-2023', end = '10-02-2023')
  for val in p:
     print(val)
```

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]]
```

```
import pandas as pd
list=[['aaa',22], ['bbb',25], ['ccc',24]]
daf=pd.DataFrame(list, columns=['Tag', 'number'])
 print(df)
```