Basic Python

1. Split this string

```python
s = "Hi there Sam!"
s.split(' ')
```

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

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

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

```python
planet = "Earth"
diameter = 12742
'The diameter of {0} is {1} kilometers.'.format(planet,diameter)
```

{"type":"string"}

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

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

{"type":"string"}

Numpy

```python
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```python
array=np.zeros(10,int)
array
```

```
array([0, 0, 0, 0, 0, 0, 0, 0, 0, 0])
```

```python
arr=np.ones(10,int)
arr*5
```

```
array([5, 5, 5, 5, 5, 5, 5, 5, 5, 5])
```

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

```python
arr=np.arange(20,35,2)
arr
```

```
array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

```
arr=np.arange(0,9)
new_arr=arr.reshape(3,3)
new_arr
```

```
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])

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

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd

data={'Name':['Ram','Sam','Guna'],'Mark':[45,23,89]}
a=pd.DataFrame(data)
a
```

```
    Name  Mark
0    Ram    45
1    Sam    23
2   Guna    89
```

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

```
df= pd.date_range(start='1/1/2023' ,end='10/02/2023')
ser=pd.Series(df)
ser
```

```
0       2023-01-01
1       2023-01-02
2       2023-01-03
3       2023-01-04
4       2023-01-05
           ...
270     2023-09-28
271     2023-09-29
272     2023-09-30
273     2023-10-01
```

```
274    2023-10-02
Length: 275, dtype: datetime64[ns]
```

10. Create 2D list to DataFrame

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

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

```python
pd.DataFrame(lists,columns=['S.no','Name','id'])
```

```
   S.no Name  id
0     1  aaa  22
1     2  bbb  25
2     3  ccc  24
```