Basic Python

1. Split this string

```
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.

```
planet = "Earth"
diameter = 12742
```

```
print("The diameter of {} is {} kilometers".format(planet,diameter))
```

```
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']}]}]}
```

```
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?

```
arr0=np.zeros(10)
print(arr0)
```

```
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
arr5=5*np.ones(10)
print(arr5)
```

```
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
arr_even_integers=np.arange(20,35,2)
print(arr_even_integers)
```

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

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

```
m3 = np.arange(0,9).reshape(3,3)
print(m3)
```

```
[[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])
np.concatenate((a,b),axis=None)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
df={'name':['pranaav','ramachandra','manoj'],'register no':[2019504561,2019504538,20195045
x=pd.DataFrame(df)
print(x)
```

```
            name  register no
0      pranaav   2019504561
1  ramachandra   2019504538
2        manoj   2019504546
```

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

```
import datetime
day_from = datetime.timedelta(days=1)
start_date=datetime.date(2023,1,1)
end_date=datetime.date(2023,2,10)
for i in range((end_date - start_date).days):
  print(start_date + i*day_from)
```

```
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
2023-01-11
2023-01-12
2023-01-13
2023-01-14
2023-01-15
2023-01-16
2023-01-17
2023-01-18
2023-01-19
2023-01-20
2023-01-21
2023-01-22
2023-01-23
2023-01-24
2023-01-25
2023-01-26
2023-01-27
2023-01-28
2023-01-29
2023-01-30
```

```
2023-01-31
2023-02-01
2023-02-02
2023-02-03
2023-02-04
2023-02-05
2023-02-06
2023-02-07
2023-02-08
2023-02-09
```

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]]


df=pd.DataFrame(lists,columns=['s_no','name','register_no'])
print(df)
```

```
   s_no name  register_no
0     1  aaa           22
1     2  bbb           25
2     3  ccc           24
```

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