Basic Python

1. Split this string

```
n = "Hi there Sam!"
```

```
N=s.split()
print(N)
['Hi', 'there', 'Sam!']
```

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

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

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

```
planet = "Earth"
universe = 12742
```

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

```
     The diameter of Earth is 12742 kilometers.
```

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

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

```
print(o['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?

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

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

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

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

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

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

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

```
[[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])

```
import numpy as np
```

```
import numpy as np
a = np.array([1,2,3])
b = np.array([4,5,6,])
z = np.concatenate((a,b))
print(z)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
data = [['vignesh', 20], [ 'Goutham', 20], [ 'Prathap',21]]
q=pd.DataFrame(data, columns = ['Name', 'Age'])
print(q)
```

```
      Name  Age
0  vignesh   20
1  Goutham   20
2  Prathap   21
```

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

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

```
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', '2023-01-11', '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',
               '2023-02-10'],
              dtype='datetime64[ns]', freq='D')
```

10. Create 2D list to DataFrame

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

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


import pandas as pd
Dataframe = pd.DataFrame(call,columns=['S.no','Name','RollNo'])
print(Dataframe)
```

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