Basic Python

1. Split this string

```
s = "Hi there Sam!"
s = "Hi there Sam!"
```

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

Output should be: 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':[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?

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

An array of 10 fives:
    [5. 5. 5. 5. 5. 5. 5. 5. 5.]

import numpy as np
array=np.arange(20,36,2)
print("Array of all the even integers from 30 to 70")
print(array)

Array of all the even integers from 30 to 70
    [20 22 24 26 28 30 32 34]
```

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

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)

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

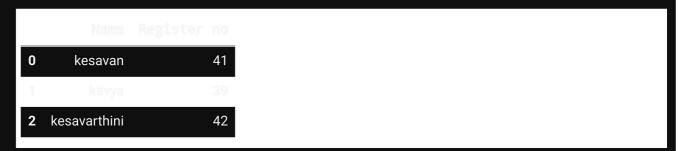
7. Concatenate a and b

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
import pandas as pd
data = [['kesavan', 41], ['kavya', 39], ['kesavarthini', 42]]
df = pd.DataFrame(data, columns=['Name', 'Register no'])
df
```



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

```
import datetime

# The size of each step in days
day_delta = datetime.timedelta(days=1)

start_date = datetime.date.today()
end_date = start_date + 41*day_delta

for i in range((end_date - start_date).days):
    print(start_date + i*day_delta)

    2022-09-15
    2022-09-16
    2022-09-17
    2022-09-18
    2022-09-19
```

```
2022-09-20
2022-09-21
2022-09-22
2022-09-23
2022-09-24
2022-09-25
2022-09-26
2022-09-27
2022-09-28
2022-09-29
2022-09-30
2022-10-01
2022-10-02
2022-10-03
2022-10-04
2022-10-05
2022-10-06
2022-10-07
2022-10-08
2022-10-09
2022-10-10
2022-10-11
2022-10-12
2022-10-13
2022-10-14
2022-10-15
2022-10-16
2022-10-17
2022-10-18
2022-10-19
2022-10-20
2022-10-21
2022-10-22
2022-10-23
2022-10-24
2022-10-25
```

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
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
ls = pd.DataFrame(data, columns=['Tag', 'Number'])
df
```