1. Split this string

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

```
[ ] s = s.split(" ")
    s
```

```
['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 {0} is {1} kilo
```

```
The diameter of Earth is 12742 kilom
```

```
The diameter of Earth is 12742 kilome
```

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

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

```
[ ] 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
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
[ ] arr = np.zeros(10)
    arr
```

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

```
[ ] arr = np.ones(10)*5
    arr
```

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

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

```
[ ] arr = np.arange(20,36,2)
    arr
```

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

```
[ ] arr = np.arange(0,9).reshape(3,3)
    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])
    c = np.concatenate([a,b])
    c
```

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

Pandas

8. Create a dataframe with 3

```
[ ] A = np.random.randint(10, size=(3,2))
    df = pd.DataFrame(A)
    df
```

	0	1
0	0	6
1	4	9
2	8	0

9. Generate the series of dates

- from 1st Jan, 2023 to 10th Feb, 2023

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

```
[ ] dates = pd.date_range(start ='1-1-2023
                          end ='02-10-2023')
    for i in dates :
      print(i)
```

```
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
2023-01-20 00:00:00
2023-01-21 00:00:00
2023-01-22 00:00:00
2023-01-23 00:00:00
2023-01-24 00:00:00
2023-01-25 00:00:00
```

```
[ ]  2023-01-23 00:00:00
     2023-01-24 00:00:00
     2023-01-25 00:00:00
     2023-01-26 00:00:00
     2023-01-27 00:00:00
     2023-01-28 00:00:00
     2023-01-29 00:00:00
     2023-01-30 00:00:00
     2023-01-31 00:00:00
     2023-02-01 00:00:00
     2023-02-02 00:00:00
     2023-02-03 00:00:00
     2023-02-04 00:00:00
     2023-02-05 00:00:00
     2023-02-06 00:00:00
     2023-02-07 00:00:00
     2023-02-08 00:00:00
     2023-02-09 00:00:00
     2023-02-10 00:00:00
```

10. Create 2D list to DataFrame

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

```
[ ] lists = [[1, 'aaa', 22], [2, 'bbb', 25
```

```
[ ] df = pd.DataFrame(lists)
    df
```

	0	1	2
0	1	aaa	22
1	2	bbb	25

	0	1	2
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24