▾ 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 the earth is 12742 kilometer

```
planet   ="Earth"
diameter = 12742
print ('The diameter of {} is {} kilometer.'.format(planet,diameter));

    The diameter of Earth is 12742 kilometer.
```

▾ 3.In this nest dictionary grap the word"hello"

```
d={'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
a=lst[3][1][2];
print(a)
```

```
['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.zeros(10)
print("An array of 10 zeros:")
print(array)
```

```
    An array of 10 zeros:
    [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
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. 5.]
```

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

```
import numpy as np
array =np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print (array)
```

```
    Array of all the even integers from 20 to 35
    [20 22 24 26 28 30 32 34]
```

6.Create a 3*3 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. Concatinate a and b

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

```
import numpy as np
arr1 =np.array([1,2,3])
arr2 =np.array([4,5,6])
arr =np.concatenate((arr1,arr2))
print(arr)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 coloumns

```
import pandas as pd
```

```
import pandas as pd
data = [['RIYA',10],['AIRA',15],['DAFI',14]]
df = pd.DataFrame(data,columns=['Name','Age'])
df
```

	Name	Age
0	RIYA	10
1	AIRA	15
2	DAFI	14

9.Generate the series of dates from 1st jan,2023 to 10th feb,2023

```
import pandas as pd
dRan1 = pd.date_range(start ='1-1-2023',periods =41)
print(dRan1)
```

```
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]]

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

```
list ={'name':['aaa','bbb','ccc'],'score':[22,25,24]}
df =pd.DataFrame(list,index=['1','2','3'])
df
```

	name	score
1	aaa	22
2	bbb	25
3	ccc	24

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