Assignment 1

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1. Split this string

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

```
[2]  s = " Hi there sam!"
     s = s.split()
     print(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
```

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

```
     The diameter ofEarth is 12742kilometers.
```

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

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

```
[6]  d={'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
     print(d['k1'][3]["tricky"][3]['target'][3])
```

```
     hello
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
[11] np.zeros(10)
```

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

```
[12] np.ones(10)*5
```

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

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

```
[14] import numpy as np
     r=np.arange(10,50,2)
     print(r)
```

```
[10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48]
```

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

```
[15] import numpy as n
     r=n.arange(0,9).reshape(3,3)
     print(r)
```

```
[[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])

```
[16] import numpy as n
     x=n.array([1,2,3])
     y=n.array([4,5,6])
     z=n.concatenate((x,y))
     print(z)
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
[18] import pandas as pd
```

```
[17] import numpy as n
     r=n.arange(20,35,2)
     print(r)
```

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

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

```
[20] import pandas as p
     s=p.date_range(start='01-01-2023',end='10-02-2023')
     for i in s:
         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
```

10. Create 2D list to DataFrame

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

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

```
[23] import pandas as p
     l = [[1, 'ppp', 22], [2, 'qqq', 25], [3,'rrr', 24]]
     s=p.DataFrame(lists,columns=['Tag','PQR','number'])
     print(s)
```

```
   Tag  PQR  number
0    1  aaa      22
1    2  bbb      25
2    3  ccc      24
```