Basic Python

1. Split this string

```
s = "Hi there Sam!"


print(s.split())
#code by anees 310119106006
```

```
['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 {} is {} kilometers".format(planet,diameter))
```

```
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']}]}]}


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?

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

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

```
ar5=np.ones(10)*5
print(ar5)
```

```
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

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

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

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

```
mat = np.arange(0,9).reshape(3,3)
print(mat)
```

```
[[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])

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

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd



c = np.array([2, 3])
d = np.array([5, 6])
dfe = pd.DataFrame(c,d)
print(dfe)
```

```
   0
5  2
6  3
```

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

```
print(pd.date_range(start='1-1-2023',end='10-2-2023'))
```

```
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',
               ...
               '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
               '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
               '2023-10-01', '2023-10-02'],
              dtype='datetime64[ns]', length=275, 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]]


print(pd.DataFrame(lists))
```

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

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