Basic Python

1. Split this string

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

```
[ ]  s = "Hi there Sam!"
     xp=s.split(" ")
     print(xp)

     ['Hi', 'there', 'Sam!']
```

italicized text ## 2. Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

```
[ ]  planet = "Earth"
     diameter = 12742
```

```
[ ]  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']}]}]}
```

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

     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(array)

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

```
[ ] import numpy as np
    array=np.ones(10)*5
    print(array)

    [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)
```

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

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

```
[ ] for i in range(9):
      if(i%3==0):
        print("\n{}".format(i),end="")
      else:
          print(" {}".format(i),end="")
```

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

     [1 2 3 4 5 6]
```

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
import pandas as pd
a=[[0,1],[2,3],[4,5]]
m=pd.DataFrame(a)
print(m)
```

```
   0  1
0  0  1
1  2  3
2  4  5
```

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

```
from datetime import timedelta, date
def daterange(date1, date2):
 for n in range(int ((date2-date1).days)+1):
   yield date1+timedelta(n)
start_dt = date(2023, 1, 1)
end_dt = date(2023, 2, 10)
for dt in daterange(start_dt, end_dt):
  print(dt.strftime("%Y-%m-%d"))
```

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
```

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
    data = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
    df = pd.DataFrame(data)
    print(df )
```

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