#1.Split this string

```
string="Hi there Sam!"
print(string.split())
```

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

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

```
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
```

#4.1.Create an array of 10 zeros?

```
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.]
```

#4.2.Create an array of 10 fives?

```
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(20,36,2)
print("Array of all the even integers from 20 to 36")
print(array)
```

```
Array of all the even integers from 20 to 36
[20 22 24 26 28 30 32 34]
```

#6.Create a 3x3 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

```
import numpy as np
a = np.array([1, 2, 3])
print(a)
b = np.array([4, 5, 6])
print(b)
print('\n---Result of a and b---')
print(np.concatenate((a, b)))
```

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

---Result of a and b---
[1 2 3 4 5 6]
```

#8.Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
data = [['tom', 10], ['nick', 15], ['juli', 14]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
print(df)
```

```
   Name  Age
0   tom   10
1  nick   15
2  juli   14
```

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

```
import datetime
import pandas as pd

# initializing date
test_date = datetime.datetime.strptime("01-01-2023", "%d-%m-%Y")

# initializing periods
periods = datetime.datetime.strptime("10-02-2023", "%d-%m-%Y")

date_generated = pd.date_range(test_date, periods)
print(date_generated.strftime("%d-%m-%Y"))
```

```
Index(['01-01-2023', '02-01-2023', '03-01-2023', '04-01-2023', '05-01-
2023',
       '06-01-2023', '07-01-2023', '08-01-2023', '09-01-2023', '10-01-
2023',
       '11-01-2023', '12-01-2023', '13-01-2023', '14-01-2023', '15-01-
2023',
       '16-01-2023', '17-01-2023', '18-01-2023', '19-01-2023', '20-01-
2023',
       '21-01-2023', '22-01-2023', '23-01-2023', '24-01-2023', '25-01-
2023',
       '26-01-2023', '27-01-2023', '28-01-2023', '29-01-2023', '30-01-
2023',
       '31-01-2023', '01-02-2023', '02-02-2023', '03-02-2023', '04-02-
2023',
       '05-02-2023', '06-02-2023', '07-02-2023', '08-02-2023', '09-02-
2023',
       '10-02-2023'],
      dtype='object')
```

#10.Create 2D list of DataFrame

```
import pandas as pd

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

df = pd.DataFrame(lists, columns =['ID', 'Name', 'Age'])
print(df)
```

```
   ID Name  Age
0   1  aaa   22
1   2  bbb   25
2   3  ccc   24
```