1. Add 10 numbers using functions in Python Programming. Func1() will take 10 arguments in the form of 10 numbers and print the summation result. Accordingly, Func2() will take 10 numbers by using the concept of reference variable or keyword arguments and simultaneously add those. Compute the time constraints of these two functions.

2. Create a 3x3 matrix and perform LU factorization.

3. Create one-dimensional, two-dimensional, and three-dimensional arrays using Numpy module and accordingly compute the speed of different arrays.

4. What is the sparsity of a matrix? Create a sparse matrix and find the sparsity of the matrix.

5. Create a dataframe like:

Id	Age	Salary
1	32	10000
2	21	15000
3	54	20000
4	34	24000
5	87	57000
6	43	45000
7	28	87000
8	59	31000
9	45	35000
10	47	65000

   Now compute the mean, median, and S.D. of the data. Apply MinMaxScaling technique to compute each and every rows of Salary column.
   MinMaxScaling formula = **(data(salary) – minimum of data(salary))/(maximum of data(salary)-minimum of data (salary))**

6. F(x)=x^2 within an interval [0,1]. What would be the value for definite integral?

7. X = [2,4,5,9,14], and y = [3.5,4.1,5.2,9.1,17],,, find the slope and intercept values after computing linear regression using scipy module.

8. What is the difference between list and arrays?

9. Two sets are present. Set A is consisting = {1,2,3,4,5}, and set B is consisting = {4,5,6,7,8}. Now figure out the intersection points, and A-B from these two sets.

10. Define a square matrix and find out the eigenvalues and eigenvectors.

11. What do you mean by dimensionality reduction? Create a 10x10 matrix and reduce the dimensions of the matrix where components would be 5 and print the value.

12. Consider the dataset :

X	Y
100	855
150	780
410	444
105	673
450	785
720	109
735	175
801	193
987	1020
441	78

Get the mean covariance from the above dataset without using any inbuilt functions. Find out the correlation matrix of the dataset.