Python Programming Laboratory (CSL48)

USN: **Week #: 08 & 09**

Semester: **Section:**   **Date:**

Instructions:

- **Implement the following programs using python language.**

Programs:

1. Develop a python program to utilize NumPy and perform the following operations
   a. Read and Print 1D array
   b. Read two 1D array and display the common numbers present in both the arrays.
   c. Read 1D array with 12 elements and convert it into 2D array of size (2, 6) and (3, 4).
   d. Read 1D array with 12 elements and convert it into 3D array.
   e. Split the 1D array into 2, 3 and 4 arrays.
   f. Demonstrate the concatenation of two 1D array.
   g. Sort the 1D array in ascending and descending order.
   h. Display all the even numbers of 1D array.

2. Develop a python program to utilize NumPy and perform the following operations.
   a. Read and Print.
   b. Display in the reverse order with and without for loop.
   c. Print the sum of all the elements of 2D Array.
   d. Display all the elements of principal diagonal elements.
   e. Read 2D array with 12 elements and convert it into 1D array.
   f. Read 2D array with 12 elements and convert it into 3D array.
   g. Sort the 2D array in ascending and descending order.

3. Develop a python program read a dataset and perform the following using Pandas
   a. Display first 5 rows of the dataset.
   b. Display last 5 rows of the dataset.
   c. Display the information about the dataset.
   d. Display the overview of the values of each column.

4. Develop a python program read a dataset and perform the following using Pandas

a. Display the data excluding the rows with empty or NA values.
b. Replace the NA values using mean of the column.
c. Replace the NA values using median of the column.
d. Display if the dataset has any duplicate entries or not.

5. Develop a python program read a dataset and perform the following using Pandas
   a. Visualize the dataset using plot().
   b. Draw the Scatter plot for the dataset on any column.
   c. Display the scatter plot with different colours.
   d. Draw the Histogram for the dataset on any column.

EVALUATION			
Program	**Remarks**	**Marks**	**Faculty Signature**
Program - 1			
Program – 2			
Program – 3			
Program – 4			
Program – 5			