

Ramaiah Institute of Technology (Autonomous Institute, Affiliated to VTU)

**Department of Computer Science & Engineering**

**Data Visualization with Python Lab(CSL48)**

**USN:**

**Week #: 06**

**Semester:**

**Section:**

**Date:**

**Instructions:**

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

**Topic:** Introduction to NumPy

**Programs:**

1. Write a Python program to create a NumPy array of 5 zeros and another array of 5 ones.
2. Write a Python program to create a NumPy array with values between 1 and 10, spaced by 0.5.
3. Write a Python program to concatenate two NumPy arrays.
4. Write a Python program to split a NumPy array into three equal-sized subarrays.
5. Write a Python program to extract all even numbers from a NumPy array.
6. Write a Python program to replace all negative numbers in a NumPy array with zero
7. Write a Python program to compute the mean, median, and standard deviation of a NumPy array.
8. Write a Python program to find unique elements in a NumPy array.
9. Write a Python program to generate a 3×3 matrix with random values between 0 and 1.
10. Write a Python program to create a diagonal matrix with specified values along the diagonal.