**Note:**

**1) Make a copy of provided colab link for each question**

**2) Write your code & execute it with the output cell in the colab or notebook**

**3) Share the final submission through  colab link or ipynb file**

**COLAB LINK:**<https://drive.google.com/file/d/14eV8VL8d1ZSpSiYlDlhPsPRWcKouY0sc/view?usp=drive_link>

**1. Write a python program to create a NumPy array of size 3\*3 having the values from 11 to 19.**

**Constraints:**

**a. Import numpy as np**

**b. Apply the logic to create 3\*3 array containing elements from 11 to 19**

**c. Print the array**

**Concepts: numpy**

**Sample Output:**

**The array:**

**[[11 12 13]**

**[14 15 16]**

**[17 18 19]]**

**2. Create a 2\*3 numpy array and print the transpose of it.**

**Constraints:**

**a. Import numpy library**

**b. Create a numpy array of 2\*3**

**c. Print the original array**

**d. Write the logic to get transpose of an array**

**e. Print the transposed matrix**

**Concepts: numpy**

**Sample Input:**

**The original array:**

**[[11 12 13]**

**[14 15 16]]**

**Sample Output:**

**The array after transposing:**

**[[11 14]**

**[12 15]**

**[13 16]]**

**3. Create three numpy 3\*3 arrays and perform arithmetic operations,transpose of arrays. Also print the shape,size,type and dimension of the arrays.**

**Constraints:**

**a. Create three numpy arrays. Among them, one should be zero array**

**b. Perform arithmetic operations**

**c. Print transpose of addition matrix**

**d. Print the shape,type,dimension,size of all the arrays**

**e. Join the addition & subtraction arrays**

**Concepts: Numpy, arrays, data types**

**Sample Input & Output:**

**Array 1: [[1 2 3]**

**[4 5 6]**

**[7 8 9]]**

**Array 2: [[11 12 13]**

**[14 15 16]**

**[17 18 19]]**

**Array 3: [[0. 0. 0.]**

**[0. 0. 0.]**

**[0. 0. 0.]]**

**Addition of arrays: [[12. 14. 16.]**

**[18. 20. 22.]**

**[24. 26. 28.]]**

**Transpose of the addition array: [[12. 18. 24.]**

**[14. 20. 26.]**

**[16. 22. 28.]]**

**Subtraction of two arrays: [[12. 14. 16.]**

**[18. 20. 22.]**

**[24. 26. 28.]]**

**Joining addition and substraction arrays: [[12. 14. 16.]**

**[18. 20. 22.]**

**[24. 26. 28.]**

**[12. 14. 16.]**

**[18. 20. 22.]**

**[24. 26. 28.]]**

**Array after splitting [array([[12., 14., 16.],**

**[18., 20., 22.],**

**[24., 26., 28.]]),**

**array([[12., 14., 16.],**

**[18., 20., 22.],**

**[24., 26., 28.]])]**

**Dimension of array A: 2**

**Shape of array A: (3, 3)**

**Size of an array A: 9**

**Type of array A:**