Numpy Assignments

Write a NumPy program to get the numpy version and show numpy build configuration.

Write a NumPy program to get help on the add function.

Write a NumPy program to test whether none of the elements of a given array is zero.

Write a NumPy program to test whether any of the elements of a given array is non-zero.

Write a NumPy program to test a given array element-wise for finiteness (not infinity or not a Number).

Write a NumPy program to test element-wise for positive or negative infinity.

Write a NumPy program to test element-wise for NaN of a given array.

Write a NumPy program to test element-wise for complex number, real number of a given array. Also test whether a given number is a scalar type or not.

Write a NumPy program to create an element-wise comparison (greater, greater_equal, less and less_equal) of two given arrays.

Write a NumPy program to create an array with the values 1, 7, 13, 105 and determine the size of the memory occupied by the array.

Write a NumPy program to create an array of 10 zeros,10 ones, 10 fives.

Write a NumPy program to create an array of the integers from 30 to70.

Write a NumPy program to create an array of all the even integers from 30 to 70.

Write a NumPy program to create a 3x3 identity matrix.

Write a NumPy program to generate a random number between 0 and 1.

Write a NumPy program to generate an array of 15 random numbers from a standard normal distribution.

Write a NumPy program to create a vector with values ranging from 15 to 55 and print all values except the first and last.

Write a NumPy program to create a 3X4 array using and iterate over it.

Write a NumPy program to create a vector of length 10 with values evenly distributed between 5 and 50.

Write a NumPy program to create a vector with values from 0 to 20 and change the sign of the numbers in the range from 9 to 15.

Write a NumPy program to create a vector of length 5 filled with arbitrary integers from 0 to 10.

Write a NumPy program to multiply the values of two given vectors.

Write a NumPy program to create a 3x4 matrix filled with values from 10 to 21.

Write a NumPy program to find the number of rows and columns of a given matrix.

Write a NumPy program to create a 3x3 identity matrix, i.e. diagonal elements are 1, the rest are 0.

Write a NumPy program to create a 10x10 matrix, in which the elements on the borders will be equal to 1, and inside 0.

Write a NumPy program to create a 5x5 zero matrix with elements on the main diagonal equal to 1, 2, 3, 4, 5.

Write a NumPy program to create a 4x4 matrix in which 0 and 1 are staggered, with zeros on the main diagonal.

Write a NumPy program to create a 3x3x3 array filled with arbitrary values.

Write a NumPy program to compute sum of all elements, sum of each column and sum of each row of a given array.

Write a NumPy program to compute the inner product of two given vectors.

Write a NumPy program to add a vector to each row of a given matrix.

Write a NumPy program to compute the x and y coordinates for points on a sine curve and plot the points using matplotlib.

Write a NumPy program to convert numpy dtypes to native python types.

Write a NumPy program to find the missing data in a given array.

Write a NumPy program to sort a given array by row and column in ascending order.

Write a NumPy program to extract all numbers from a given array which are less and greater than a specified number.

Write a NumPy program to replace all numbers in a given array which is equal, less and greater to a given number.

Write a NumPy program to create an array of equal shape and data type of a given array.

Write a NumPy program to create a three-dimension array with shape (3,5,4) and set to a variable.

Write a NumPy program to multiply two given arrays of same size element-by-element.