Assignment on NumPy

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

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

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

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

5. Write a NumPy program to test a given array elementwise for finiteness (not infinity or not a Number).

6. Write a NumPy program to test elementwise for positive or negative infinity.

7. Write a NumPy program to test elementwise for NaN (Not a Number) of a given array.

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

9. Write a NumPy program to test whether two arrays are element-wise equal within a tolerance

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

11. Write a NumPy program to create an element-wise comparison (equal, equal within a tolerance) of two given arrays.

12. 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

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

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

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

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

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

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

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

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

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

22. 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

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

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