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 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 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 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 in a given matrix.

## 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 find common values between two arrays.  
Expected Output:  
Array1: [ 0 10 20 40 60]  
Array2: [10, 30, 40]  
Common values between two arrays:  
[10 40]

Write a NumPy program to get the unique elements of an array.  
Expected Output:  
Original array:  
[10 10 20 20 30 30]  
Unique elements of the above array:  
[10 20 30]  
Original array:  
[[1 1]  
[2 3]]  
Unique elements of the above array:  
[1 2 3]

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

Write a NumPy program to convert cartesian coordinates to polar coordinates of a random 10x2 matrix representing cartesian coordinates.  
Expected Output:  
[ 0.89225122 0.68774813 0.20392039 1.22093243 1.24435921 1.00358852  
0.37378547 0.8534585 0.31999648 0.567451 ]  
[ 1.02751197 1.26964967 0.02567519 0.85386412 0.73152767 0.45822494  
1.50634505 1.47389983 0.80818521 0.33001182]

Write a NumPy program to find the closest value (to a given scalar) in an array.  
Original array:  
[ 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49  
50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74  
75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99]  
Value to compare:  
34.99062268928913  
35