

Merging Arrays

Write a program that generates two two-dimensional arrays of natural numbers, with sizes and values randomly chosen from the range <1, 5>. Then, merge these arrays into one two-dimensional array of natural numbers. Below is an example of such merging.

Example of Array 1: [↗](#)

1	2	3	4
2	1	3	2

Example of Array 2: [↗](#)

1	8	9
2	4	5

Resulting Array: [↗](#)

1	2	3	4
2	1	3	2
3	8	9	0
4	4	5	0

If the two arrays have a different number of columns, fill the missing spaces with zeros.

For the resulting array, perform the following tasks:

1. Prime Numbers

Determine how many elements in the array are prime numbers. To check if a number is prime, use the Sieve of Eratosthenes implemented by you.

2. Sum of Neighboring Elements

Determine the row and column number of the element whose sum of neighboring elements is the largest. We assume that if an element is not on the "edge" of the array, it has eight neighbors.

3. Largest Element

Find the largest element in the array. If there are multiple such elements, the result should be the one closest to the "top-left corner" of the array.

4. Balancing Values

Calculate the sum of values that need to be added to all remaining elements, except the element found in point 3, so that all these elements have the same value as the largest element.

Example Array: [↗](#)

1	2	3	4
2	1	3	2

The largest element is 4. Below in green are the values that need to be added to the other elements:

1	2 + 2	3 + 1	4
2	1 + 3	3 + 1	2 + 2

Result:

Sum: $(2 + 1 + 3 + 1 + 2 = 9)$