Co-prime Count

Two integers are said to be co-primes if their greatest common divisor is *1*. Given an array of positive integers, *A*, return an array of integers, *B,* where *B[i]* = count of integers *j* such that *1 ≤ j ≤ A[i]* and *j* is co-prime with respect to *A[i]*.

**Example**

*A = [5, 8, 14]*

The number *A[0] = 5* is prime. All numbers greater than zero and less than *5*, i.e. 1-4, are co-prime to *5,* so *B[0] = 4*.

For *A[1] = 8,* the integers *[2, 4, 6]* share at least the common divisor of *2* with *8.* The 4 values, *[1, 3, 5, 7]*, are co-primes, so *B[1] = 4*.

For *A[2] = 14,* the integers *[2, 4, 6, 7, 8, 10, 12]* share a common divisor > 1 with 14. The 6 co-primes are *[1, 3, 5, 9, 11, 13]*, so *B[2] = 6*.

The return array is *B = [4, 4, 6]*.

**Function Description**

Complete the function *coprimeCount* in the editor below.

coprimeCount has the following parameter(s):

*int A[n]:*  an array of integers

**Return**

*int[n]:* an array of integers that represents the number of co-primes for each test case

**Constraints**

*1 ≤ A[i] ≤ 105*

*1 ≤ size of A ≤ 105*

**Sample Case 0**

Sample Input 0

STDIN    Function   
-----    --------   
1    →   A[] size n = 1   
1    →   A = [1]

Sample Output 0

1 

Explanation 0

1 is the only number that satisfies the given property, since the greatest common divisor of (1,1) = 1

**Sample Case 1**

Sample Input 1

STDIN    Function   
-----    --------   
2    →   A[] size n = 2   
1    →   A = [1, 3]   
3 

Sample Output 1

1   
2 

Explanation

*B[0]* = count of co-primes of A[0] = 1 in [1] = 1 *B[1]* = count of co-primes of *A[1] = 3* in *[1,2,3] = 2* because *gcd(1,3) = 1, gcd(2,3) = 1* and *gcd(3,3) = 3*