Conjecture

Time Limi t 2 second

Abel is interested in number theory and has read about a well-known conjecture called **“Goldbach Conjecture”** . According to this conjecture, every even number greater than 2 can be written as the sum of any two prime numbers. Now Abel has an array A with N elements and he wants to find the product of those two prime numbers for each element A[i] , (0 <= i < N). Abel is busy reading more about number theory so he has given you the task.

Note : There can be more than one pair of prime numbers that sum up to A[i]. In that case print that product of that pair whose product is least.

Input

- First line of input will contain the array size N (1<=N<=10^6).
- Second line will contain N integers seperated by a space A(1<=A[i]<=10^8).

Output

- Print in one line the product of two primes x , y such that x+y=A[i] for all 0<= i < n seperated by space. If it is impossible to choose such x and y , print 0.

Sample Input	Sample Output
5 18 8 12 28 50	65 15 35 115 141

For i =0 , 18 = 13 + 5 ; 18 = 11 + 7. Since (13*5 = 65 < 11*7 =77) , hence 65 is printed. Similarly for i = 3 , 28 = 17 + 11 ; 28 = 23 + 5. Since (23*5 = 115 < 17*11 = 187) , 115 is printed.