

## Best Carry Player 4

Input file:            **standard input**  
Output file:           **standard output**  
Time limit:            1 second  
Memory limit:         1024 megabytes

After learning elementary math, Little Cyan Fish has mastered the concept of carry<sup>1</sup>, which is a digit that is transferred from one column of digits to another column of more significant digits.

<i>carry</i>	<b>1</b>		<b>1</b>	
		<b>6</b>	<b>7</b>	<b>6</b>
	<b>+</b>	<b>5</b>	<b>1</b>	<b>8</b>
		<b>1</b>	<b>1</b>	<b>9</b>
			<b>4</b>	

Now, Little Cyan Fish gives two numbers  $A$  and  $B$  in the base  $m$ . For each number, you can permute its digits arbitrarily. After that, you will get two new numbers  $A'$  and  $B'$ , and leading zeros are **allowed** here. What is the maximum number of carries when computing  $A' + B'$  in the base  $m$ ?

### Input

There are multiple test cases in a single test file. The first line of the input contains a single integer  $T$  ( $1 \leq T \leq 2 \times 10^5$ ), indicating the number of test cases.

For each test case, the first line contains one integer  $m$  ( $2 \leq m \leq 5 \times 10^5$ ).

The second line contains  $m$  integers  $a_0, a_1, \dots, a_{m-1}$  ( $0 \leq a_i \leq 10^9$ ).  $a_i$  indicates the number of occurrences of digit  $i$  in  $A$ .

The third line contains  $m$  integers  $b_0, b_1, \dots, b_{m-1}$  ( $0 \leq b_i \leq 10^9$ ).  $b_i$  indicates the number of occurrences of digit  $i$  in  $B$ .

It is guaranteed that the sum of  $m$  over all test cases is no more than  $5 \times 10^5$ .

### Output

For each test case, output one integer indicating the maximum number of carries.

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<sup>1</sup>which means “进位” in Chinese

## Example

standard input	standard output
5	5
2	1
1 2	2
3 4	467900
3	29
1 0 1	
0 1 0	
4	
1 0 0 1	
1 1 1 1	
5	
123456 114514 1919810 233333 234567	
20050815 998244353 0 0 0	
10	
5 3 5 3 2 4 2 4 1 5	
9 9 8 2 4 4 3 5 3 0	