The Alpha Element

Each element of an array A is considered as an array *Bi* with their digits as elements, where ‘ i ’ is the number of elements of array A. The Beauty of an array A is also an array called X, the elements are formed by using the conditions:

* First half of *Bi*is equal to the second half of *Bi*
* *Xj*= (length of the array + middle digit (if odd)) x (Range of the array) x (Bmax)3

Where ‘j’ is the position of the element starting from 1.

Sum of the reversed elements of the array X is called Sx and the array of Palindrome elements of A is called as P

The “Anti-palindrome” sum is called as Fx where Fx is equal to Sx – (Pmin x ∑P)

If Fx is positive then add 69 to it else add till Fx becomes the least possible positive value.

To find the Alpha Element multiply the array P with Fx and the element which has the 2nd greatest number of prime numbers as its digits is called the Alpha Element.

**Note:**

* If the array A has odd number of elements, then ignore the middle element while splitting the array
* = 696969……….
* If there is a clash while finding the Alpha Element then the number whose sum of digits is the largest among the elements with a tie is called as the Alpha Element

**Input Format:**

* The first line of input contains a single integer T, denoting the number of test cases
* The second line of input contains a single integer N, denoting the length of the array
* The following N lines of inputs are integers and they are the elements of the array

**Output Format:**

* The output is a single integer

**Sample Input and Output:**

Input:

1

4

131

33

7272

34

Output:

87978