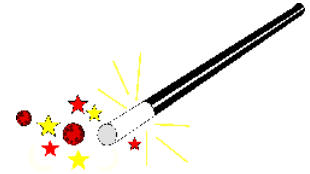# Problem B- Prefix Goodness

The *prefix goodness* of a set of strings is the length of the longest
common prefix for the elements in the set, multiplied by the number
of strings in the set. For example consider the set $\{000, 001, 0011\}$.
The longest common prefix is "00", which means it has a prefix
goodness of 6.

You are given a set of binary strings. Find the maximum prefix goodness among all possible
subsets of these binary strings.

Input Specification:

The input begins with an integer $T \leq 20$, the number of test cases. Each test case begins
with $n \leq 50000$, the number of binary strings, and is followed by n lines of binary strings,
no longer than 200 characters each.

Output Specification:

For each test case output the maximum prefix goodness among all possible subsets of n
binary strings.

Sample Input:

```
4
4
0000
0001
10101
010
2
010100101010101010101010
1101001010101010101010
3
010101010101000010001010
010101010101000010001000
010101010101000010001010
5
010101010101000010100100100101
010101010101000010100110101010100
0000101010101101010101
00010101010111010101
0001010101010101001
```

Sample Output:

```
6
20
66
44
```