1078 – Integer Divisibility

If an integer is not divisible by 2 or 5, some multiple of that number in decimal notation is a sequence of only a digit. Now you are given the number and the only allowable digit, you should report the number of digits of such multiple.

For example you have to find a multiple of 3 which contains only 1's. Then the result is 3 because is 111 (3-digit) divisible by 3. Similarly if you are finding some multiple of 7 which contains only 3's then, the result is 6, because 333333 is divisible by 7.

Input

Input starts with an integer **T (≤ 125)**, denoting the number of test cases.

Each case will contain two integers **n (0 < n ≤ 10^6** and **n** will not be divisible by **2** or **5**) and the allowable digit **(1 ≤ digit ≤ 9)**.

Output

For each case, print the case number and the number of digits of such multiple. If several solutions are there; report the minimum one.

Sample Input	Output for Sample Input
3 3 1 7 3 9901 1	Case 1: 3 Case 2: 6 Case 3: 12