Problem L. Finding password

Time limit	1000 ms
Mem limit	1572864 kB
Code length Limit	50000 B
OS	Linux

Bom has a list of n favorite numbers which are birthday, driving license, passport number, etc After creating an email account, Bom wants to choose a password as the largest number P among all possible numbers generated by the combinations of k (1 <= k <= n) positive numbers in the favorite list so that P is divisible by 9.

Your task is writing a program to help find P the password for Bom's email.

Input

The first line contains a positive integer T as the number of test cases in the input file. The following lines describe information of each test case including:

- One line containing two positive integers n and k,
- n following lines are n favorite numbers.

Output

The output file contains T lines; each line is the solution of the corresponding test case that is either password P or -1 in case of not finding a feasible number.

Limits

T <= 30
1 <= k <= n <= 100
1 <= all favorite numbers <= 10^6

Example

Input	Output
2 3 2 1 2 3 5 2 1 2 3 4 5	-1 54