4349 Adventure Tourism

There has been a growing interest in adventure tourism lately. However, organizing adventure tours is not an easy task. It requires very careful preparation with attention to specific details.

This tour has p young male and q female participants. In addition to the logistic and rescue team, the organizers also assign k more guides to join the tour. In the first stage of the tour, the road is quite narrow passing a cliff; the group will have to go in one line. To be able to help each other, a female participant has to go next to, i.e. before or after, a male participant or a guide. Furthermore, there must be at least one participant next to a guide. Given these constraints, there are several ways the group can form a line. Let's denote B, G and M as a male participant, a female participant and a guide respectively. A line formation can be represented by a string of length $(p+q+k)$ containing characters from the set {B, G, M}. Two line formations are different if their string representations are different.

For example, the group having 2 male, 2 female and a guide ($p = q = 2, k = 1$) has 24 different way to form a line as follows:

Index	Group Line	Index	Group Line	Index	Group Line	Index	Group Line
1	BBGGM	7	BGMBG	13	MGBBG	19	GBGMB
2	BBGMG	8	BGMGB	14	MGBGB	20	GBMBG
3	BGBGM	9	BMGBG	15	MGGBB	21	GBMGB
4	BGBMG	10	BMGGB	16	GBBGM	22	GMBBG
5	BGGBM	11	MBGBG	17	GBBMG	23	GMBGB
6	BGGMB	12	MBGGB	18	GBGBM	24	GMGBB

Given p, q, and k, let's denote n as the number of different ways to form a line. Your task is to write a program to calculate the remainder of n divided by 10^7.

Input

The input file consists of several data sets. The first line of the input file contains the number of data sets which is a positive integer and is not bigger than 20. The following lines describe the data sets.

For each data test, there is only one line containing three integers p, q and k ($0 \le p, q \le 1000$, $0 \le k \le 10$) separated by space.

Output

For each data test, write in one line the remainder of the number of different line formations divided by 10^7.

Sample Input

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1
2 2 1
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Sample Output

24