Coloring Grid

Calculate the number of ways to color an N * M grid using K colors. Adjacent squares in the grid should have different colors. Squares are considered adjacent if they share an edge.

Input Format
The first line contains an integer T denoting the number of test-cases. The next T lines contains integers N, M and K separated by a single space.

Output Format
Output T lines, one for each test case containing the number of ways modulo 10^9+7.

Constraints
$1 <= T <= 10^5$
$1 <= N,M <= 8$
$1 <= K <= 10^9$

Sample Input

```
3
3 3 2
3 4 3
1 1 1
```

Sample Output

```
2
1122
1
```

Explanation
For the first case, there are two ways to color the grid. The colorings are in a chessboard pattern with either color at the top right square.

Timelimits Timelimits for this challenge can be seen here