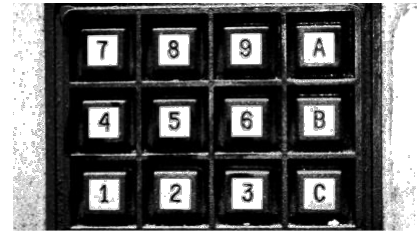


Problem C

Code Word



Following on from the engineering success of Left Pad, Ltd, Lynn started a new venture: Internet of Security, Inc. The company's flagship product will be a device for entering passcodes.

The chief innovation of this device will be in its ability to reject attempts to set insecure passwords. An insecure passcode is defined as a sequence of digit presses such that at least two consecutive presses are either directly or diagonally adjacent.

Lynn, ever-vigilant for the future, is worried that this system might not allow enough unique passcodes to support a large company with trillions of employees. For a given digit pad grid size, and fixed length of password, calculate the number of allowed passwords.

Since the number might be very large in some cases, output your answer mod 1 000 000 007.

Input

The first line contains the integers r and c ($1 \leq r, c \leq 100$), the number of rows and columns of buttons on the pad.

The second line contains the integer l ($1 \leq l \leq 200$), the single allowed length for any passcode.

Output

Output the number of legal passcodes, mod 1 000 000 007.

Sample Input 1

| |
|----------|
| 3 3 2 |
|----------|

Sample Output 1

| |
|----|
| 32 |
|----|

Sample Input 2

| |
|------------|
| 100 1 5 |
|------------|

Sample Output 2

| |
|-----------|
| 860286658 |
|-----------|

Sample Input 3

| |
|--------------|
| 49 97 191 |
|--------------|

Sample Output 3

| |
|-----------|
| 814099263 |
|-----------|