Your task is to write a program that tiles a rectangle $f \times c$ with tiles $a \times b$. For each one of the 26 uppercase letters, there exactly is a vertical tile and a horizontal tile available, of which can be used at most one. For instance, if $a = 1$ and $b = 3$, we can use at most one of these two tiles:

```
A A A
A
A
```

The rectangle must be totally covered, and any piece of the used tiles can be left. If there are more than a way to tile, your program must find the less in alphabetical order, reading from top to bottom and from left to right. In the case that does not exist any possible way, your program must indicate it.

**Input**

The input consists of a series of lines, each one with $a$, $b$, $f$ and $c$ in this order. All the numbers are between 1 and 50.

**Output**

For each line of the input, your program must print the least lexicographically tiling, or "!!!" if does not exist any. Separate the answers with a line in white.

**Scoring**

- **TestA:** 15 Points
  
  Some test cases will exclusively contain cases like the ones in the instance of input 1, in which $a = 1$, and where $f$ and $c$ are multiples of $b$.

- **TestB:** 20 Points
  
  Some test cases will also contain cases like the ones in the instance of input 2, in which $f$ and $c$ are multiples of $a$ and $b$.

- **TestC:** 65 Points
  
  Other test cases will contain cases of every kind.

**Sample input 1**

```
1 3 3 3
1 3 3 6
1 1 3 9
1 1 2 13
```

**Sample output 1**

```
AAA
BBB
CCC
```
AAABBB
CCCDDD
EEEFFF

Sample input 2
2 2 4 6
3 4 12 12
3 3 48 48

Sample output 2
AABBCC
AABBCC
DDEEFF
DDEEFF

Sample input 3
3 1 3 5
3 1 2 5
1 20 15 15
1 6 9 8
4 3 7 12
4 3 12 7
2 3 9 6

Sample output 3
AAABC
DDBC
EDEBC

!!!

AAAABBBBCCCCC
AAAABBBBCCCCC
AAAABBBBCCCCC
DDDEEEFFFFGGG
DDDEEEFFFFGGG
DDDEEEFFFFGGG
DDDEEEFFFFGGG

!!!

AAAABBB
AAAABBB
AAAABBB
CCCCBBB
CCCDDBBB
CCCDDBBB
EDEEDDD
EDEEDDD
EDEEDDD
EDEEFFFF
GGGGFFFF
GGGGFFFF

!!!

AAAABBB
AAAABBB
AAAABBB
CCCDDD
CCCDDD
EDEEFF
EDEEFF
GHHHII
GHHHII
GHHHII