

# The Impressive Path

Input file:            **standard input**  
Output file:           **standard output**  
Time limit:            3 seconds  
Memory limit:         256 megabytes

Your imaginary girlfriend has been kidnapped by the evil ALU when you were solving ICPC problems, and you must save her before it's too late! The ALU has put her in a maze of size  $n \times m$ . You begin your journey at  $(1, 1)$  and your imaginary girlfriend is kept at  $(n, m)$ .

However, the evil ALU knew you are coming and had set up numerous deadly traps in the maze. But you do not come unprepared as you have mastered the art of problem solving. Deduced from some simple observations, you noticed that the traps will do no harm to you if you move in the way a knight moves on a chessboard and never visit the same place twice.

But there is another important problem: the timing. Your imaginary girlfriend, who is a kawaii loli with twintails, has recently got some tsundere characteristics for her affection to you. And you can only successfully impress her if you come to save her at the exact moment of  $t$  seconds. You must take that into consideration. Making a single knight-move costs exactly 1 second and you are at  $(1, 1)$  at time 0.

Now it's time for you to come up with the plan and save her from the evil!

## Input

The first line contains three positive integers  $n, m, t$ , ( $8 \leq n, m \leq 500, n + m \leq t \leq \frac{3}{4}nm$ ). It is guaranteed that the parity of  $t$  is the same as the parity of  $n + m$ .

## Output

Print  $t$  lines with two positive integers each line. The pair in the  $i$ -th(1-based) line represents the coordinates you are at at the time  $i$ . The output should be a valid path from  $(1, 1)$  to  $(n, m)$  thus the  $t$ -th line should be  $n \ m$ . Each move should be a valid knight move and no coordinate can be outside the maze or appear more than once.

## Examples

standard input	standard output
8 8 16	3 2 4 4 2 3 3 5 5 6 7 7 8 5 6 6 8 7 6 8 7 6 8 4 6 5 8 6 6 7 8 8