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| **Problem A.Ant on a Chessboard** |

**Background**

One day, an ant called Alice came to an M\*M chessboard. She wanted to go around all the grids. So she began to walk along the chessboard according to this way: (you can assume that her speed is one grid per second)

At the first second, Alice was standing at (1,1). Firstly she went up for a grid, then a grid to the right, a grid downward. After that, she went a grid to the right, then two grids upward, and then two grids to the left…in a word, the path was like a snake.

For example, her first 25 seconds went like this:

( the numbers in the grids stands for the time when she went into the grids)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 25 | 24 | 23 | 22 | 21 |
| 10 | 11 | 12 | 13 | 20 |
| 9 | 8 | 7 | 14 | 19 |
| 2 | 3 | 6 | 15 | 18 |
| 1 | 4 | 5 | 16 | 17 |

5

4

3

2

1

1 2 3 4 5

At the 8th second , she was at (2,3), and at 20th second, she was at (5,4).

Your task is to decide where she was at a given time.

(you can assume that M is large enough)

**Input**

Input file will contain several lines, and each line contains a number N(1<=N<=2\*10^9), which stands for the time. The file will be ended with a line that contains a number 0.

**Output**

For each input situation you should print a line with two numbers (x, y), the column and the row number, there must be only a space between them.

**Sample Input**

8

20

25

0

**Sample Output**

2 3

5 4

1 5