A: Returning Home

Time Limit: 1 second(s)

Chouchou is a cute rabbit living in a 2D grid world which is partitioned into rows and columns. Every place in this world is denoted by an ordered pair of integers, e.g., (i, j) is this place is located in the ith row and jth column.

Chouchou's home is located at $(0, 0)$, and he is now at (x, y) playing with Xiangxiang. Suddenly, it starts to rain. We know that in this first second, all of the places with odd row number and even column number are raining, all of the places with even row number and odd column number are raining, and all of the other places are not.

Chouchou decides to go home. Each second, Chouchou can jump once from the place he is currently at, say (i, j), to one of the four neighbouring places: $(i-1, j)$, $(i+1, j)$, $(i, j-1)$ and $(i, j+1)$ or he may stay on (i, j). Chouchou doesn't like the rain, so he wants to go home in such a way that he will minimise the number of seconds that he is in the rain.

Xiangxiang is good at predicting the weather, and she tells Chouchou that at every place, it alternates between raining and not raining every second for 30 minutes and then it stops raining.

Chouchou jumps from one place to the neighbouring places instantaneously. Chouchou either jumps or stays still at the end of every second. In particular, if he starts on a place that is raining, then he will spend at least one second in the rain. As soon as Chouchou arrives at his home at $(0, 0)$, he goes inside, so he can never get rained on at $(0, 0)$.

Could you please help Chouchou to find his optimal way home?

Input

The input consists of two integers, x ($0 \leq x \leq 1000$) and y ($0 \leq y \leq 1000$), the location where Chouchou is currently playing.

Output

Output two integers, a and b. a is the minimum possible number of seconds Chouchou will have to stay in raining places before he can reach his home. Note that there might be multiple optimal ways to achieve the minimum possible a. b is the minimum number of seconds it will take Chouchou to get home by only spending a seconds in the rain.

Sample Input and Output

Sample Input	Output for Sample Input
1 1	0 2

Sample Input	Output for Sample Input
1 2	1 4