A. Tennis Tournament

Time limit: 1s Memory limit: 256 MB

A tennis tournament with n participants is running. The participants are playing by an olympic system, so the winners move on and the losers drop out.

The tournament takes place in the following way (below, m is the number of the participants of the current round):

- let k be the maximal power of the number 2 such that $k \le m$,
- k participants compete in the current round and a half of them passes to the next round, the other $m - k$ participants pass to the next round directly,
- when only one participant remains, the tournament finishes.

Each match requires b bottles of water for each participant and one bottle for the judge. Besides p towels are given to each participant for the whole tournament.

Find the number of bottles and towels needed for the tournament.

Note that it's a tennis tournament so in each match two participants compete (one of them will win and the other will lose).

Input

The only line contains three integers n, b, p ($1 \le n, b, p \le 500$) — the number of participants and the parameters described in the problem statement.

Output

Print two integers x and y — the number of bottles and towels need for the tournament.

Examples

input
5 2 3
output
20 15

input
8 2 4
output
35 32

Note

In the first example will be three rounds:

1. in the first round will be two matches and for each match 5 bottles of water are needed (two for each of the participants and one for the judge),
2. in the second round will be only one match, so we need another 5 bottles of water,
3. in the third round will also be only one match, so we need another 5 bottles of water.

So in total we need 20 bottles of water.

In the second example no participant will move on to some round directly.