18 The Arrangers
9 points

Introduction

The time has come. After more than ten years and twenty films building up to the final climax, "The Arrangers" is premiering in cinemas today. It's full of action, emotion and bad jokes. It's going to be HUGE.

At least as huge as the queue.

You are the first of your friends to arrive and there is no more room inside, so you must buy all the tickets. You can only buy one ticket at a time, so if you need more than one, you have to go back to the end of the line until you have as many as you need.

Each ticket takes exactly one minute to buy. You need to calculate how many minutes you will spend in the queue, so you can tell your friends when to arrive.

Input

The input consists of two lines where:
The first line is a series of positive integers indicating the number of tickets that each person wants to buy.
The second line is your initial position in the queue, starting from "1".

Output

Print out a single integer indicating how many minutes you will be in the queue until you buy all the tickets.

Example 1

Input

2 2 4 1 3
3

Output
12

Example 2

Input

5 1 3 2
2

Output
2