Problem E. Lazy Running

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

In HD University, you have to be able to run around the campus 24 times in a row: otherwise, you will fail the physical education exam and get expelled from the university. According to the rules, you must keep your speed, and your total running distance should be at least K meters.

There are four checkpoints in the campus, labeled as p_1, p_2, p_3 and p_4. Every time you pass a checkpoint, you should swipe your card, and the distance between this checkpoint and the last checkpoint you passed will be added to your total distance.

The system regards the four checkpoints as a circle: from checkpoint p_i, you can only run to one of its neighbors, p_{i-1} or p_{i+1}; p_1 and p_4 are also neighbors of each other. You can run along a straight or curved line between neighboring checkpoints, but it makes no difference for the system: only the distance between checkpoints is taken into account.

Checkpoint p_2 is the nearest to the dormitory, so Little Q always starts and ends running at this checkpoint. Please write a program to help Little Q find the shortest path such that the total running distance taken into account by the system is at least K meters.

Input

The first line of the input contains five integers K, $d_{1,2}$, $d_{2,3}$, $d_{3,4}$ and $d_{4,1}$ denoting the required distance and the distances between every pair of neighboring checkpoints ($1 \le K \le 10^{18}$, $1 \le d \le 3 \cdot 10^4$).

Output

Print a single line containing a single integer: the length of the shortest path.

Example

standard input	standard output
2000 600 650 535 380	2165