Monopoly

Input file:	`standard input`
Output file:	`standard output`
Time limit:	0.5 seconds
Memory limit:	64 megabytes

You find an old game of monopoly in your attic and you decide to play it against Carlo. You don't like to lose, so you decide to use your magic dice to cheat.

The game is played on a board, made of N cells arranged in a circle. The cells are numbered from 0 to $N - 1$, with cells $N - 1$ and 0 being adjacent.

Each cell has a tax value T_i associated with it. Every time a player lands on a cell, he has to pay the tax value of that cell (the tax value can be negative, meaning that the player receives money).

Carlo starts on cell 0 and will play K turns of monopoly. Each turn he rolls two 6-sided dice and moves forward by the sum of the two values.

He then pays the tax value of the cell he lands on. If the two dice value are equal, after moving and paying, he **must** continue and roll the dice again.

Carlo can move at most 3 times in a single turn, then his turn automatically ends (even if the 2 dice values are equal).

You can control the outcomes of all the dice rolls, maximize the amount of money Carlo loses during the game.

Input

The first line contains the integers N and K ($1 \le N \le 1000$), ($1 \le K \le 1000$).

The second line contains N integers T_i ($-10^9 \le T_i \le 10^9$).

For tests worth 20 points, $K = 1$.

For tests worth 30 more points, ($1 \le N \le 100$), ($1 \le K \le 100$).

Output

You need to write a single line with an integer: the amount of money Carlo loses during the game.

Examples

standard input	standard output
11 1 0 5 4 12 6 3 15 7 2 20 5	47
12 1 -10 -20 -4 -6 -15 -20 -20 -20 -20 -20 -20 -20	-6
2 2 999999999 1000000000	5999999998

Note

In the **first sample case** the answer is 47. A possible sequence of rolls is the following:

- Carlo rolls 3 and 3 and moves to cell 6, with tax value 15. Since the 2 dice values are equal he must throw again.

- Carlo rolls 4 and 4 and moves to cell 3, with tax value 12. Since the 2 dice values are equal he must throw again.

- Carlo rolls 3 and 3 and moves to cell 9, with tax value 20. He already moved 3 times, so his turn ends, even if the 2 dice values are equal.

In the **second sample case** the answer is -6. A possible sequence of rolls is the following:

- Carlo rolls 1 and 2 and moves to cell 3, with tax value -6. Then his turn ends.

Note that going to the cell 2 is not optimal because the only way to do so is by rolling 1 and 1, but that forces Carlo to move again.