Bài: xaule.inp

Consider a sequence A of integers, containing N integers between 1 and N. Each integer appears exactly once in the sequence.
A subsequence of A is a sequence obtained by removing some (possibly none) numbers from the beginning of A, and then from the end of A.
Calculate how many different subsequences of A of **odd** length have their median equal to B. The median of a sequence is the element in the middle of the sequence after it is sorted. For example, the median of the sequence {5, 1, 3} is 3.

Input

The first line contains two integers, N ($1 \leq N \leq 100000$) and B ($1 \leq B \leq N$).
The second line contains N integers separated by spaces, the elements of sequence A.

Output

Output the number of subsequences of A whose median is B.

Sample test data

input	output	input	output	input	output
5 4 1 2 3 4 5	2	6 3 1 2 4 5 6 3	1	7 4 5 7 2 4 3 1 6	4

In the fourth example, the four subsequences of A with median 4 are {4}, {7, 2, 4}, {5, 7, 2, 4, 3} and {5, 7, 2, 4, 3, 1, 6}

Bài 2: Duaxe.inp

A bicycle race is being organized in a country. The transport network of the country consists of N cities numbered 1 through N, with M bidirectional roads connecting them. We will use the following terms:

- A **path** is a sequence of roads in which each road starts in the city the preceding road ended in.
- A **simple path** is a path which never visits a city more than once.
- A **ring** is a **simple** path ending in the same city it started in.

The network is such that there is **at least one path** between every pair of cities. Additionally, every **road** in the network is part of **at most one ring**.
Your task is to find the longest path for the race satisfying two constraints:

- The path may begin in any city, but must end in city 1.
- The path may visit a city more than once, but it must not contain any road more than once.

Input

The first line of input contains two integers N and M ($2 \leq N \leq 10000$, $1 \leq M \leq 2N-2$) – the numbers of cities and roads in the network.

Each of the following M lines contains two different integers A and B ($1 \leq A, B \leq N$). These numbers indicate that there is a bidirectional road between cities A and B. No two cities will be directly connected by more than one road.

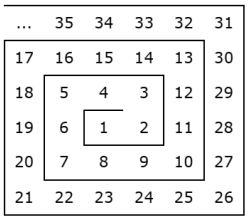
Output

Output the length of the longest race path on a single line.

input	output	Input			
4 3 1 2 1 3 2 4	2	6 6 1 2 1 3 2 4 3 4 3 5 5 6	5	5 6 1 2 2 3 3 4 4 5 5 3 3 1	6

Bài 3: vuotnguc.*

Brave Sir Robin has been thrown in the dungeon by the evil king. The dungeon consists of an infinite number of cube-shaped rooms with big stone walls. Rooms are connected by passages so that the entire dungeon, when viewed from above, looks like a spiral. The rooms are numbered as follows:



After a big earthquake **some of the walls collapsed**, and new passages were formed between adjacent rooms.

Sir Robin is initially in room 1. Sir Robin knows that the exit from the dungeon is located in room N, and wants to escape while everyone is distracted by the earthquake. Because the evil dragon is guarding the dungeon, Sir Robin wants to use the fastest way out of the dungeon.

Write a program that, given the location of the exit N and the list of new passages, determines the **smallest number of passages** that Sir Robin must go through before he can exit the dungeon.

INPUT

The first line of input contains an integer N ($1 \leq N \leq 10^{15}$), the room in which the exit is located.

The second line of input contains an integer K (1<=K <= 100 000), the number of new passages.

Each of the following K lines contains one integer B ($4 \leq B \leq 10^{15}$), meaning that a new passage now connects adjacent rooms A and B, where A<B. The number A is not given explicitly, but it can be uniquely determined from B (for example, if B is 20, then A must be 7). Also, some rooms can never

be room B (rooms 2, 3, 5, 7, 10, 13 etc.).

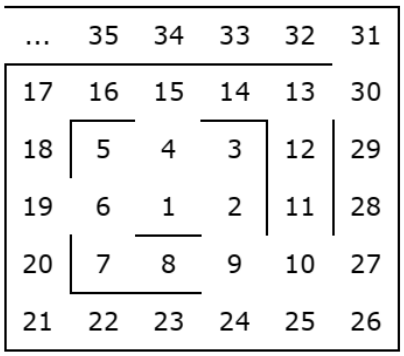
OUTPUT

Output should consist of a single integer, the smallest number of passages that Sir Robin must go through before he can exit the dungeon.

EXAMPLE TEST DATA

31 9 15 25 30 6 9 19 24 27 4	6	10000 5 52 4 9 25 27	9953		

Clarification of first example. This is the layout of the dungeon after the earthquake:



can use the route 1-4-15-14-13-30-31, using only 6 hallways to exit the dungeon.