# Uncle Grandpa and MEX

Uncle Grandpa is out on a sunny day, when he suddenly think of a problem.

Given a sequence of non-negative integer of length, . Uncle Grandpa calls a sequence “good” if the MEX of this sequence is exactly . The MEX of a sequence is the minimum non-negative integer that doesn’t appear in the sequence. For example, the MEX of the sequence is , and the MEX of the sequence is .

Uncle Grandpa wants to transform the given sequence to be a “good” sequence. To do that, he can either add any non-negative integer to the sequence, or remove any elements from the sequence. He wants to do it in the minimum number of operations. Please help him! He promises to treat you a pizza for your help!

## Input

The first line contains 2 integers and – the length of the given sequence, and Uncle Grandpa’s desired MEX value.

The second line contains non-negative integers with values not exceeding .

## Output

One single integer – the minimum number of operations that Uncle Grandpa needs to perform to make the sequence “good”

## Examples

|  |  |
| --- | --- |
| **Input (mexseq1.in)** | **Output (mexseq1.out)** |
| 4 2  4 0 7 2 | 2 |

|  |  |
| --- | --- |
| **Input (mexseq2.in)** | **Output (mexseq2.out)** |
| 6 3  4 5 6 7 8 9 | 2 |

**For mexseq1 test case:** the minimum number of operation is 2: add number 1 to the sequence and remove number 2. The sequence after these operations is which has a MEX value of

**For mexseq2 test case:** the minimum number of operation is 3: add 3 numbers to the sequence. The sequence after these operations is which has a MEX value of

## Note:

1. A skeleton file has been given to help you. You should not create a new file or rename the file provided. You should develop your program using this skeleton file.
2. You are free to define your own helper methods and classes (or remove existing ones) if it is suitable but you must put all the new classes, if any, in the same skeleton file provided

## Skeleton File

You are given the skeleton file Mexseq.java. You should see the following contents when you open the file:

|  |
| --- |
| /\*\*  \* Name :  \* Matric. No :  \*/  import java.util.\*;  public class Mexseq {  private void run() {  //implement your "main" method here  }  public static void main(String[] args) {  Mexseq newMexseq = new Mexseq();  newMexseq.run();  }  } |