



The Hurdle Race

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Problem

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Dan is playing a video game in which his character competes in a hurdle race by jumping over n hurdles with heights h_0, h_1, \dots, h_{n-1} . He can initially jump a maximum height of k units, but he has an unlimited supply of magic beverages that help him jump higher! Each time Dan drinks a magic beverage, the maximum height he can jump during the race increases by 1 unit.

Given n , k , and the heights of all the hurdles, find and print the *minimum* number of magic beverages Dan must drink to complete the race.

Input Format

The first line contains two space-separated integers describing the respective values of n (the number of hurdles) and k (the maximum height he can jump without consuming any beverages).

The second line contains n space-separated integers describing the respective values of h_0, h_1, \dots, h_{n-1} .

Constraints

- $1 \leq n, k \leq 100$
- $1 \leq h_i \leq 100$

Output Format

Print an integer denoting the *minimum* number of magic beverages Dan must drink to complete the hurdle race.

Sample Input 0

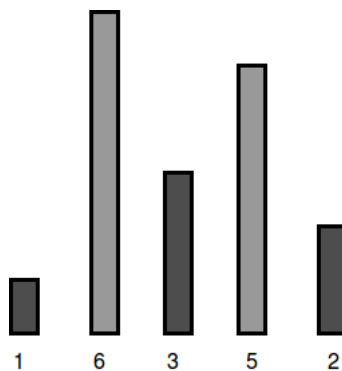
```
5 4
1 6 3 5 2
```

Sample Output 0

```
2
```

Explanation 0

Dan's character can jump a maximum of $k = 4$ units, but the tallest hurdle has a height of $h_1 = 6$:



To be able to jump all the hurdles, Dan must drink $6 - 4 = 2$ magic beverages.

Sample Input 1

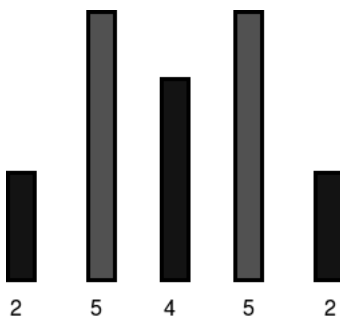
```
5 7
2 5 4 5 2
```

Sample Output 1

```
0
```

Explanation 1

Dan's character can jump a maximum of $k = 7$ units, which is enough to cross all the hurdles:



Because he can already jump all the hurdles, Dan needs to drink **0** magic beverages.

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Submissions: 7166

Max Score: 15

Difficulty: Easy

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Current Buffer (saved locally, editable)

C#

```
1 using System;
2 using System.Collections.Generic;
3 using System.IO;
4 using System.Linq;
5 class Solution {
6
7     static void Main(String[] args) {
8         string[] tokens_n = Console.ReadLine().Split(' ');
9         int n = Convert.ToInt32(tokens_n[0]);
10        int k = Convert.ToInt32(tokens_n[1]);
11        string[] height_temp = Console.ReadLine().Split(' ');
12        int[] height = Array.ConvertAll(height_temp, e => int.Parse(e));
13
14        Console.WriteLine(height.Max() - k >= 0 ? height.Max() - k : 0);
15
16        Console.ReadLine();
17    }
18 }
19
20
```

Line: 17 Col: 1

[Upload Code as File](#)

☐ Test against custom input

[Run Code](#)

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Congrats, you solved this challenge!

✓ Test Case #0

✓ Test Case #3

✓ Test Case #1

✓ Test Case #4

✓ Test Case #2

Next Challenge

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