

Contest Duration: 2025-08-16(Sat) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250816T2100&p1=248>) - 2025-08-16(Sat) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250816T2240&p1=248>) (local time) (100 minutes)

[Back to Home \(/home\)](#)

[Top \(/contests/abc419\)](#)

[Tasks \(/contests/abc419/tasks\)](#)

[Clarifications \(/contests/abc419/clarifications\)](#) [Results ▾](#)

[Standings \(/contests/abc419/standings\)](#)

[Virtual Standings \(/contests/abc419/standings/virtual\)](#) [Editorial \(/contests/abc419/editorial\)](#)

[Discuss \(<https://codeforces.com/blog/entry/145581>\)](#)



E - Subarray Sum Divisibility

[Editorial \(/contests/abc419/tasks/abc419_e/editorial\)](#)

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 475 points

Problem Statement

You are given a length- N integer sequence $A = (A_1, A_2, \dots, A_N)$.

Your goal is to perform the following operation repeatedly so that for every length- L contiguous subarray of A , the sum is a multiple of M .

- Choose an integer i such that $1 \leq i \leq N$, and increase the value of A_i by 1.

Find the minimum possible number of operations before achieving the goal.

Constraints

- $1 \leq N, M \leq 500$
- $1 \leq L \leq N$
- $0 \leq A_i < M$
- All input values are integers.

Input

The input is given from Standard Input in the following format:

2026-01-02 (Fri)
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N	M	L	
A_1	A_2	\dots	A_N

Output

Output the answer.

Sample Input 1

Copy

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

Copy

Sample Output 1

Copy

```
4
```

Copy

By performing the operation once choosing $i = 2$, twice choosing $i = 3$, and once choosing $i = 4$, you get $A = (4, 3, 3, 4)$ with a total of four operations, where every length-3 contiguous subarray sums to a multiple of 5.

Sample Input 2

Copy

```
7 10 4  
7 0 9 1 6 4 2
```

Copy

Sample Output 2

Copy

```
10
```

Copy

```
'#telegram)
```

```
'url=https://atcoder.jp/contests/abc419/tasks/abc419_e#lang3Den&title=E%20-  
ity)
```

[Rule \(/contests/abc419/rules\)](#) [Glossary \(/contests/abc419/glossary\)](#)

[Terms of service \(/tos\)](#) [Privacy Policy \(/privacy\)](#) [Information Protection Policy \(/personal\)](#) [Company \(/company\)](#)
[FAQ \(/faq\)](#) [Contact \(/contact\)](#)

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