



You have [+355!](#) Wow!

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C. Cyclic Merging

time limit per test: 2 seconds

memory limit per test: 256 megabytes

You are given n non-negative integers a_1, a_2, \dots, a_n arranged on a ring. For each $1 \leq i < n$, a_i and a_{i+1} are adjacent; a_1 and a_n are adjacent.

You need to perform the following operation **exactly $n - 1$** times:

- Choose any pair of adjacent elements on the ring, let their values be x and y , and merge them into a single element of value $\max(x, y)$ with cost $\max(x, y)$.

Note that this operation will decrease the size of the ring by 1 and update the adjacent relationships accordingly.

Please calculate the minimum total cost to merge the ring into one element.

DeepL 翻译

给你 n 个非负整数 a_1, a_2, \dots, a_n 在一个环上排列。每个 $1 \leq i < n$ 中， a_i 和 a_{i+1} 相邻； a_1 和 a_n 相邻。

您需要执行以下操作 ** 精确地** $n - 1$ 次：

Codeforces Round 1064 (Div. 2)

比赛进行中

01:35:08

Contestant



→ 提交?

语言: GNU G++20 13.2 (64 bit, ✓)

选择文件: 未选择文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

提交

→ 评分表

Score
Problem A
452



- 在环上任意选择一对相邻元素，假设它们的值分别为 x 和 y ，然后将它们合并为一个值为 $\max(x, y)$ 的元素，合并代价为 $\max(x, y)$ 。

请注意，此操作将使环的大小减少 1，并相应地更新相邻关系。

请计算将环合并为一个元素的最小总成本。



Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \leq t \leq 10^4$). The description of the test cases follows.

The first line of each test case contains an integer n ($2 \leq n \leq 2 \cdot 10^5$).

The following line contains n integers a_1, a_2, \dots, a_n ($0 \leq a_i \leq 10^9$).

It is guaranteed that the sum of n over all test cases does not exceed $2 \cdot 10^5$.

DeepL 翻译



输入

每个测试包含多个测试用例。第一行包含测试用例的数量 t ($1 \leq t \leq 10^4$)。测试用例说明如下。

每个测试用例的第一行都包含一个整数 n ($2 \leq n \leq 2 \cdot 10^5$)。

下一行包含 n 个整数 a_1, a_2, \dots, a_n ($0 \leq a_i \leq 10^9$) ($0 \leq a_i \leq 10^9$).

保证所有测试用例中 n 的总和不超过 $2 \cdot 10^5$ 。



Output

For each test case, please print a single integer — the minimum total cost.

DeepL 翻译



输出

请为每个测试用例打印一个整数 - 最小总成本。

Problem B	678
Problem C	904
Problem D	1356
Problem E	1808
Problem F	2712
Successful hack	100
Unsuccessful hack	-50
Unsuccessful submission	-50
Resubmission	-50

* If you solve problem on 00:24 from the first attempt

Example

input	Copy
3 4 1 1 3 2 2 0 2 7 1 1 4 5 1 4 1	
output	Copy
6 2 19	



Note

In the first test case, we can achieve a cost of 6 on $[1, 1, 3, 2]$ as follows:

- Merge indexes 1 and 2 with a cost of 1, the ring becomes $[1, 3, 2]$.
- Merge indexes 1 and 3 with a cost of 2, the ring becomes $[3, 2]$.
- Merge indexes 1 and 2 with a cost of 3, the ring becomes $[3]$.

The total cost is $1 + 2 + 3 = 6$. It can be proven that it is impossible to achieve a lower cost; thus, the answer is indeed 6.

In the second test case, the only option is to merge the two elements, with a cost of 2.

DeepL 翻译

□ ×

注

在第一个测试案例中，我们可以在 $[1, 1, 3, 2]$ 上实现 6 的成本，具体如下：

- 合并索引 1 和 2，成本为 1，环变为 $[1, 3, 2]$ 。
- 合并索引 1 和 3，需要花费 2，索引环变为 $[3, 2]$ 。
- 合并索引 1 和 2，费用为 3，索引环变为 $[3]$ 。

总成本为 $1 + 2 + 3 = 6$ 。可以证明不可能实现更低的成本，因此答案确实是 6。



在第二个测试案例中，唯一的选择是合并两个元素，成本为 2。

GNU G++20 13.2 (64 bit, winlibs) ▾



1



▶ 自定义测试数据(自动保存)



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