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Coding Area

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Coding Area

A**B****C****D****E****F****ONLINE EDITOR (F)**

Round Vaults in Bank

+ Problem Description

In the strong room of ABC bank there are N vaults arranged in a circle. The amount of money inside each vault displayed on the door. You can empty any number of vaults as long as you do not empty more than 2 out of any 5 adjacent vaults. If you attempt to break more than 2 of any 5 adjacent vaults, an alarm sounds and the sentry a sharp shooter will kill you instantly with his laser gun! Note that as the vaults are arranged in a circle, the last vault is adjacent to the first one.

The output is the maximum amount of money that can be emptied without sounding the alarm

+ Constraints

$N \leq 50$, Amount in each vault ≤ 50000

+ Input Format

The first line contains an integer N which is the number of vaults. The next line has a sequence of positive integers of length N, giving the amount of cash in its vaults in order

+ Output

The maximum amount of money that can be looted without sounding the alarm.

+

+ Explanation

Example 1

Input

9

1000, 2000, 1000, 5000, 9000, 5000, 3000, 4000, 1000

Output

15000

Explanation

The vaults 1, 5, 6 are looted, giving a total loot of $(1000+5000+9000)=15000$

Example 2

Input

10

1000,2000,3000,5000,9000,7000,6000,4000,7000,5000

Output

26000

Explanation

There are 10 vaults arranged in a circle. The amounts in the vaults are 1000, 2000, ... 5000.

One way of getting the maximum is to loot vaults 4, 5, 9 and 10 giving a total of 26000. Hence the output is 26000. Note that no 5 adjacent vaults have more than 2 looted.

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