Treasures Collection

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There are **an even number N of treasures** are stacked in a row. Each treasure has a value/price. These treasures are collected by two treasures' collectors. They agreed to divide the number of treasures equally among them (each one takes N/2 treasures), such that each of them must choose either to take **the leftmost or the rightmost** of the remaining treasures, and then it becomes the turn of the other collector to choose the leftmost or the rightmost of the remaining, and so on. You are a friend of the collector who **starts the choice first**. You are required to calculate the **maximum possible total treasures' value** that your friend can get, assuming that his opponent is clever and wants to maximize his collected value too. Use a **DP solution** (a manual penalty will be applied if not).

Submissions: 33
Max Score: 10
Difficulty: Medium

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Input Format

- a line containing the even number N
- another line containing N integers (the treasures row) for the values of the N treasures.

Constraints

- N is an even number in that range: 2 <= N <= 10000
- Each treasure value has range: 1 <= value <= 10000

Output Format

- one number containing the maximum total value your friend who starts the game can get

Sample Input 0

```
4
5 3 7 10
```

Sample Output 0

```
15
```

Explanation 0

(**friend 10** - opponent 7 - **friend 5** - opponent 3), so the total of your friend is 10+5 = 15.

Sample Input 1

```
4
8 15 3 7
```

Sample Output 1

```
22
```

Explanation 1

(**friend 7** - opponent 8 - **friend 15** - opponent 3), so the total of your friend is 7+15 = 22.

C++20

```
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}

```

Line: 1 Col: 1

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