



## 3 Questions

Total Marks: 300.0

## 3 Programming Questions

1. Perpendicular Lines + 100.0

2. Black and White + 100.0

3. A Game on Array + 100.0

## Question 3

Max. Marks 100.00



## A Game on Array

## Problem Statement

There is an array  $A$  of size  $N$ . Alex and Bob play a game on it with Alex moving first and the players playing their turns alternately.

In each turn, the length of the array decreases by 1 because of following operation that the player performs:

1. If the length of array is odd, the middle number is removed from array.
2. If the length is even, the player has a choice of removing either of the middle two elements.

The value of removed element is added to the score of the current player.

At end, the winner is decided by the one having maximum score. If both have same score at end, we allow Alex to win as he is the inventor of this game.

Both players play optimally.

Print the winner of the game and the absolute difference between their scores after the game ends.

## Constraints

$$2 \leq N \leq 2,00,000$$

$$0 \leq A[i] \leq 10^9$$

## Input Format

First line contains an integer  $N$ , denoting the size of array.

Next line contains  $N$  space separated natural numbers, denoting the array  $A$ .

## Output Format

In a single line, print the winner followed by a single integer denoting the absolute value of the difference between their scores.

Sample Input 🔗

Sample Output 🔗

Alex 0

