

# Burst Balloons Optimally

There are  $N$  Balloons marked with value  $B_i$  (where  $B(i \dots N)$ ). User will be given Gun with  $N$  Bullets and user must shot  $N$  times. When any balloon explodes then its adjacent balloons becomes next to each other. User has to score highest points to get the prize and score starts at 0. Below is the condition to calculate the score. When Balloon  $B_i$  Explodes then score will be a product of  $B_{i-1}$  &  $B_{i+1}$  (score =  $B_{i-1} * B_{i+1}$ ). When Balloon  $B_i$  Explodes and there is only left Balloon present then score will be  $B_{i-1}$ . When Balloon  $B_i$  Explodes and there is only right Balloon present then score will be  $B_{i+1}$ . When Balloon  $B_i$  explodes and there is no left and right Balloon present then score will be  $B_i$ . Write a program to score maximum points.

Input 4 1 2 3 4

Output

20

## Input Format

First line  $N$  Next line array of  $N$  integers

## Constraints

$1 < N < 10$

## Output Format

Single integer

## Sample Input 0

```
4
1 2 3 4
```

## Sample Output 0

```
20
```