Problem H: Improved Conscription

When the Huns breached the Great Wall and invaded China, the Chinese army held a draft – one man from each family was required to join the ranks. Even though Fa Zhou was older and in poor health, he was required to enlist as the only male in his family. In order to protect her father, Fa Mulan went in his stead and proved to be a capable warrior herself.

Now that the conflict is resolved, the Chinese army is considering alternative ways of organizing the draft. The scheme they have chosen is to line all potential soldiers up in a line, grouped by family. They will then give each potential recruit a score based on his or her physical fitness. Finally they will choose those potential soldiers with the best scores, but without ever taking two recruits who are standing next to each other. This rule is in place to prevent ever taking more than half of the potential soldiers from one family (since families are standing next to each other). Captain Li Shang believes this method will yield a stronger army and be more equitable to Chinese families.

Captain Shang has asked you to write a program which will be given the list of the recruits physical fitness score, and select the recruits which gives the maximum total physical fitness score – while never selecting two consecutive potential soldiers.

Input

The first line of input contains an integer N giving the number of potential soldiers. The following N lines of input each give the overall physical fitness score of the N soldiers.

Output

Your program should output "The maximum strength of the army is X." where X is the maximum total physical fitness of the recruits.

Sample Input

```
7
34
87
94
86
39
42
96
```

Sample Output

```
The maximum strength of the army is 269.
```