Problem C - Cheesy Bread

Daniel ordered cheesy bread for ACM practice. Lucca, who was at practice and was the most eager for cheesy bread, he realized that there were many pieces of cheesy bread of different sizes all in a row, most of which were pretty small. Lucca figured that he could combine some of them together (by putting them together like a sandwich) and developed the following combination method:

- If two **adjacent** pieces of cheesy bread are of the same size, Lucca can put them together to make a super cheesy bread that is the sum of the two old cheesy bread's size. It occupies the postion in the row previously occupied by the two old pieces of cheesy bread.

- If two pieces of cheesy breads have the same size and there is **exactly one piece of cheesy bread between them**, Lucca can combine all three and make a super cheesy bread. (The middle cheesy bread can be of any size and not necessarily the same as the other two.) The new cheesy bread is the sum of the three old cheesy bread sizes and occupies the same position in the row as previously occupied by the three old cheesy breads.

Note that Lucca can repeat this procedure as many times as he wants since super cheesy breads are essentially the same as the original cheesy breads.

Help Lucca figure out the size of the biggest piece of cheesy bread he can enjoy after performing any number of combinations.

Input

The first line contains a single integer T specifying the number of test cases.

Each test case begins with a single integer $n(1 \leq n \leq 400)$. The next line will contain n space seperated integers $a_1, a_2, ..., a_n (1 \leq a_i \leq 10^6)$ denoting the sizes of the cheesy breads in order from left to right.

Output

For each test case on its own line, ouput the largest cheesy bread Lucca can make.

Sample Input

```
2
7
47 12 12 3 9 9 3
4
1 2 3 1
```

Sample Output

```
48
3
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