Problem G - Greedy for Good Pizza

There were so many people at ACM practice that Daniel put all the pizza in a row and got everyone to line up moving by the pizza taking one slice at a time. Daniel already put down some pizza boxes the he told David not to move, but David had a few more boxes he was carrying that he could put down between any of the pizza boxes Daniel put down. He can insert the boxes he's holding anywhere, as long as the relative order of the boxes that Daniel put down remain the same.

David is feeling a little greedy so instead of going through the line multiple times, he figures that he could probably finish a slice of pizza while he's moving through the line, but he can only grab a slice of pizza if his hands are empty, and if he takes a slice, he has to walk by the next box of pizza (since he's busy eating). This means that David is not allowed to take (and consume) two pizza from two consecutive pizza boxes.

David does want to eat a lot of pizza, but he only wants to eat a lot of good pizza. David has assigned a rating to each pizza (taco pizza gets a rating of 1, while curry pizza gets a 10000). Help David maximize the sum of rating among the slices he can pick up while moving through the line.

Input

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

Each test case begins with one integer $n(1 \leq n \leq 3000)$ denoting the number of pizzas Daniel has put down. Then follows one line with n space seperated integers, with the ith integer $a_i(1 \leq a_i \leq 10^5)$ the rating David has for the ith pizzas from the left that Daniel already put down.

The next line contains $m(0 \leq m \leq 100)$ the number of pizzas that David can put down. Then follows a single line with m space seperated integers. The ith integer $b_i(1 \leq b_i \leq 10^5)$ is the rating David has for his ith pizza. Note that this line may be empty if $m = 0$.

Output

For each test case, output the maximum sum of pizza ratings David can consume, if he's allowed to place the m pizzas he's holding anywhere between the n pizzas Daniel put down.

Sample Input

```
2
1
20
0

5
10 12 6 14 7
3
1 8 2
```

Sample Output

```
20
44
```