

Pancakes

Filename: *pancakes*

Time Limit: *1 second*

Arup's family loves pancakes! Luckily, Arup loves making pancakes! Typically, he cooks the pancakes for the other three, one by one. Naturally, everyone loves stacking pancakes, and the Guha Girls have determined that pancake stacks are most aesthetically pleasing if any stacked pancake has a strictly smaller radius than the one directly below it.

When Arup stacks his pancakes on plates that are 30 cm in diameter. Since he wants the base pancake to easily fit on the plates, the largest pancake he cooks has a diameter of 29 cm. (Also, since Arup loves integers as everyone knows, all of the pancakes have an integer number of centimeters as their diameter.)

When Arup finishes cooking a pancake, he may place it on top of a pancake that has already been cooked and is on the top of a stack on a plate, or he may bring out a new plate to place the pancake on as the bottom of a new stack.

To add a twist to the situation, at any point in time, the Guha Girls can come and take all of the plates that are arranged, since they are hungry. When this occurs, Arup will start using new plates whenever he finishes another pancake. (And no plates get reused. Thus, once a plate is taken so that the pancakes can be eaten, that plate can't be used to place new pancakes on.) Since the Guha Girls don't like wasting any pancakes, the last event in any situation will be them taking the last set of plates. Since Arup doesn't enjoy doing dishes, he wishes to minimize the number of plates that get used while he cooks pancakes. Write a program to calculate this minimum number given several different pancake cooking scenarios.

The Problem

Given a sequence of events (either a pancake of a given diameter has been cooked, or the Guha Girls take all of the current plates), determine the minimum number of plates that Arup could use in cooking the pancakes.

The Input

The first line of input will consist of a single positive integer, c ($c \leq 25$), representing the number of input cases to process. The first line of each input case will contain a single positive integer, n ($2 \leq n \leq 1000$), representing the number of events in the sequence. The second line of each input case will contain n space separated integers, each in the range from 0 to 29, inclusive. All positive integers represent a pancake of that diameter being cooked while 0 represents the Guha Girls taking all of the plates to eat all of the pancakes that have been cooked since the last time they took the plates (or the beginning of the sequence of events).

Partial Credit Input (60%)

The maximum number of test cases, c will be bounded by $c \leq 10$. The number of events in the sequence, n will be bounded by $2 \leq n \leq 30$, and the second line of input for each case will contain a single 0, the last number on the line. All other bounds are the same.

The Output

For each input case, output the minimum number of plates Arup must use for the scenario, on a line by itself.

Sample Input

```
3
10
20 21 22 23 19 18 17 16 15 0
6
29 0 25 0 5 0
4
29 25 5 0
```

Sample Output

```
4
3
1
```