Problem E
Ice War II

Time limit: **3 seconds**
Memory limit: **1024 megabytes**

Problem Description

There is a card battle game called "Ice War." In this game, the player needs to accumulate MP (Mana Points) in order to launch attacks. In this problem, you are given an integer array representing unseparated game records (containing one or multiple games).

- Each positive number in the array means the player gains that amount of MP in a round.
- Each negative number represents the player attempting to spend MP to launch an attack.
  - Small Fire $\rightarrow -1$ MP
  - Medium Fire $\rightarrow -2$ MP
  - Large Fire $\rightarrow -3$ MP

A game continues until the player makes an illegal move – that is, they attempt to launch an attack that costs more MP than they currently have. When this happens:

- The current game ends immediately.
- The player's MP is reset to 0.
- A new game may start immediately from the next record.

Your task is to process the given records and determine the length of the longest valid game the player has played.

Input Format

Your program is to read from standard input. The first line contains a single integer T, representing the number of test cases. Each of the following T lines contains a list of integers representing the unseparated game record for that test case. The length of the array is between 1 and 1,000 (inclusive). Each number is either: A positive integer between `1` and `99` (MP gained), or one of `-1`, `-2`, `-3` (an attack attempt).

Output Format

For each test case, print one line: A single integer representing the length of the longest valid game in the given array.

Technical Specification

- The length of the array is between 1 and 1,000 (inclusive).

- MP gained is a positive integer between 1 and 99.
- An attack attempt is one of {-1, -2, -3}.

Sample Input 1

```
3
-1 2 -1 -1
6 -1 -3 -2 -3 2
-3 3 -1 -2 1 -2 3 -3 9 -3 -2 -1
```

Sample Output 1

```
3
4
6
```