Problem H. Cow Bowling

Time limit   1000 ms
Mem limit   65536 kB

The cows don't use actual bowling balls when they go bowling. They each take a number (in the range 0..99), though, and line up in a standard bowling-pin-like triangle like this:

```
          7

        3   8

      8   1   0

    2   7   4   4

  4   5   2   6   5
```

Then the other cows traverse the triangle starting from its tip and moving "down" to one of the two diagonally adjacent cows until the "bottom" row is reached. The cow's score is the sum of the numbers of the cows visited along the way. The cow with the highest score wins that frame.

Given a triangle with N (1 <= N <= 350) rows, determine the highest possible sum achievable.

Input
Line 1: A single integer, N

Lines 2..N+1: Line i+1 contains i space-separated integers that represent row i of the triangle.

Output
Line 1: The largest sum achievable using the traversal rules

Sample

Input	Output
5 7 3 8 8 1 0 2 7 4 4 4 5 2 6 5	30

Hint
Explanation of the sample:

```
          7

            *

          3     8

         *

          8     1     0

           *

       2     7     4     4

          *

     4     5     2     6     5
```

The highest score is achievable by traversing the cows as shown above.