Spiderman's Revenge

Spiderman comes to know that Mysterio is still alive. He decides to lure off Mysterio from a high skyscraper. His plan is to pour his new mixture of polyester which he uses in his webshooters called '**SpiderWire**' over Mysterio to immobilize him, and then hurl him off the skyscraper such that the SpiderWire breaks leaving a panicked and injured Mysterio vulnerable on the ground below for Spiderman's further attack. However, he realizes that the SpiderWire may not snap making the achievement aloof, or if he went too high the fall would kill Mysterio, which he doesn't like to do. So he decides to perform some practice with many identical Mysterio-sized mannequins to find out the least level from which if thrown the mannequin will break when it hits the ground below. He wants to know what is the maximum number of times he will have to drop a mannequin from the skyscraper if he uses an optimal method to determine the critical level from and above which the mannequin will always break.

NOTE: A mannequin which did not break after falling can be reused. It is possible that mannequin may not break even when thrown from the highest level.

Input Format

- The first line of the input contains an integer T denoting the number of test cases.
- For Each test case contains a single line with 2 integers N and L denoting the number of mannequins Spiderman has prepared and the number of levels of the skyscraper respectively.

Constraints

- $1 \leq T \leq 10000$
- $1 \leq N \leq 5000$
- $1 \leq H \leq 5000$

Output Format

For each test case output one line containing a single integer denoting the answer.

Sample Input 0

```
1
1 15
```

Sample Output 0

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15
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Explanation 0

Spiderman has no option but to drop his single mannequin from each level starting from the lowest level until it breaks or he reaches the top level of the skyscraper.