* Egg Drop With 2 Eggs and N Floors

- dp

n = 10

eggs \ floors	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	1	2	2	3	3	3	4	4	4	4

$O(floor^2 \times eggs)$

$O(floor \times eggs)$

1, 2

when 1, $1 + \max(dp[1][0], dp[2][1])$

when 2, $1 + \max(dp[1][1], dp[2][0])$

$1 + \max(\text{break}, \overset{\text{no}}{\text{break}})$

1, 2, 3

when 1 → $1 + \max(dp[1][0], dp[2][2])$

2 → $1 + \max(dp[1][1], dp[2][1])$

3 → $1 + \max(dp[1][2], dp[2][0])$

1, 2, 3, 4

1 → $1 + \max(dp[1][0], dp[2][3])$

2 → $1 + \max(dp[1][1], dp[2][2])$

3 → $1 + \max(dp[1][2], dp[2][1])$

4 → $1 + \max(dp[1][3], dp[2][0])$

- generic

n = 100

take x → If break → x−1 times ⇒ total x

If no break → 2x−1 → break → x−2 times

↳ no break

3x−2 → break → x−3 times

$x + (x-1) + (x-2) + \cdots + 1 = 100$

No. Date.

$$\frac{(n+1) \times n}{2} = 100$$

$$n^2 + n - 2 \times 100 = 0$$

$$n = \frac{-1 + \sqrt{1 + 4 \times 2 \times 100}}{2 \times 1}$$

→ If no floating points same value

else value +1