

You have deposited a specific amount of money into your bank account. Each year your balance increases at the same growth `rate`. With the assumption that you don't make any additional deposits, find out how long it would take for your balance to pass a specific `threshold`. Of course you don't want to wait too long, so you know that the answer is not greater than `6`.

Example

For `deposit = 100`, `rate = 20`, and `threshold = 170`, the output should be

`depositProfit(deposit, rate, threshold) = 3`.

Each year the amount of money in your account increases by `20%`. So throughout the years, your balance would be:

- year 0: 100;
- year 1: 120;
- year 2: 144;
- year 3: 172.8.

Thus, it will take `3` years for your balance to pass the `threshold`, so the answer is `3`.

Input/Output

- **[execution time limit] 0.5 seconds (cpp)**

- **[input] integer deposit**

The initial deposit, guaranteed to be a positive integer.

Guaranteed constraints:

$1 \leq \text{deposit} \leq 100$.

- **[input] integer rate**

The rate of increase. Each year the balance increases by the `rate` *percent* of the current sum.

Guaranteed constraints:

$1 \leq \text{rate} \leq 100$.

- **[input] integer threshold**

The target balance.

Guaranteed constraints:

$\text{deposit} < \text{threshold} \leq 200$.

- **[output] integer**