

Guessing game (zgadywanka-1)

Memory limit: 32 MB

Time limit: 0.50 s

This is an interactive problem.

The grader chose some positive integer K from range 1 to N (inclusive). The goal of your program is to guess the value of K asking at most 30 queries (the details are given below).

Interaction

Initially, the grader gives (to the standard input of your program) the integer N . Then, your program may ask queries about any integer K' from range 1 to N . The query should be printed to the standard output. The grader answers $<$, $>$ or $=$ to the standard input of your program (depending on case if $K < K'$, $K > K'$ or $K = K'$).

Please remember about flushing the standard output buffer every query.

Limits

$1 \leq N \leq 10^9$.

Example interaction

| Input | Output |
|-------|--------|
|-------|--------|

| | |
|----|--|
| 10 | |
|----|--|

| | |
|--|---|
| | 5 |
|--|---|

| | |
|---|--|
| > | |
|---|--|

| | |
|--|---|
| | 8 |
|--|---|

| | |
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| < | |
|---|--|

| | |
|--|---|
| | 7 |
|--|---|

| | |
|---|--|
| = | |
|---|--|

In the example test $N = 10$ and $K = 7$.