

Number Guessing Game



You are playing a guessing game.

- A secret integer is chosen uniformly at random between 1 and 1000 (inclusive).
- You may ask one yes/no question per turn, and it must be exactly in this form:
Is the number $\leq k$? \leftarrow replace k with any integer you choose.
- After you receive the answer, list the remaining possible integers before you ask the next question.
- When only one possibility is left, announce it with:
The number is X
and stop.

You are not allowed to solve this using programming. Ask your first question now.

Is the number ≤ 500 ?

Remaining possibilities if YES: 1 to 500

Remaining possibilities if NO: 501 to 1000



Yes.

Remaining possibilities: 1 to 500

Next question:

Is the number ≤ 250 ?



Yes.

Remaining possibilities: 1 to 250

Next question:

Is the number ≤ 125 ?



Yes.

Remaining possibilities: 1 to 125

Next question:

Is the number ≤ 62 ?



No.

Remaining possibilities: 63 to 125

Next question:

Is the number ≤ 94 ?



Yes.

Remaining possibilities: 63 to 94

Next question:

Is the number ≤ 78 ?



Yes.

Remaining possibilities: 63 to 78

Next question:

Is the number ≤ 70 ?



Yes.

Remaining possibilities: 63 to 70

Next question:

Is the number ≤ 66 ?



Yes.

Remaining possibilities: 63 to 66

Next question:

Is the number ≤ 64 ?



Yes.

Remaining possibilities: 63 to 64

Next question:

Is the number ≤ 63 ?



Yes.

The number is 63.