Twenty Questions

In *Twenty questions* one player selects a word, and the other repeatedly asks true/false questions in an attempt to identify the word. If the word remains unidentified after 20 questions, the first party wins; otherwise, the second player wins.

In fact, the second player always has a winning strategy, based on binary search. Given a printed dictionary, the player opens it in the middle, selects a word (say "move"), and asks whether the unknown word is before "move" in alphabetical order.

Since standard dictionaries contain 50,000 to 200,000 words, we can be certain that the process will always terminate within twenty questions.