

Q: A game of chess can be posed as the following decision problem: given a legal positioning of chess pieces and information about which side is to move, determine whether that side can win. Is this decision problem decidable?

A: A decision tree can be constructed which determines all possible moves in a game of chess. From a certain position, it can be checked whether it is a winning position for the side which will move next. Therefore, this decision problem is **decidable**.