Solving Minesweeper

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The "Minesweeper problem" consists of a set S, a family of sets $\mathcal{F} \subseteq \mathcal{P}(S)$, and a function $g : \mathcal{F} \to \mathbb{N}$. S is the set of cells on the board, and $\mathcal{F}$ contains the set of neighbors of each square. For all $A \in \mathcal{F}$, $g(A) = n$ is the number of elements of A (which are squares) that contain mines, so $0 \leq n \leq |A|$.