

Algorithm of Gilmore

Goal: Determine whether $\{\varphi_1, \dots, \varphi_k\} \models \varphi$ holds

1. Let ψ be the formula $\varphi_1 \wedge \dots \wedge \varphi_k \wedge \neg\varphi$.

2. Transform ψ into Skolem normal form.

3. Choose an enumeration $\{\psi_1, \psi_2, \dots\} = E(\forall \psi)$.

Replace all atomic formulas by propositional variables.

4. Check whether $\psi_1, \psi_1 \wedge \psi_2, \psi_1 \wedge \psi_2 \wedge \psi_3, \dots$ are satisfiable.

If one of these formulas is unsatisfiable, stop and return **“true”**.