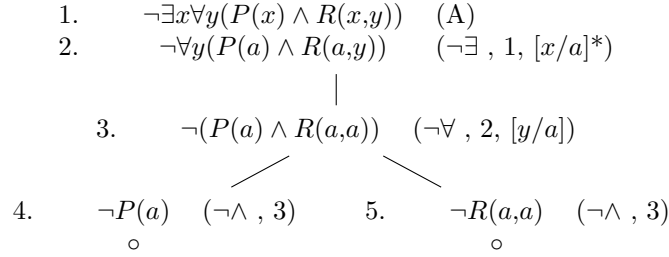


You are using countermodel generation
for classical predicate logic.

Tableau for

$\not\models \exists x \forall y (P(x) \wedge R(x, y)) :$



The tableau is open:

The formula is refutable.

Countermodels:

Structure $\mathcal{S}_4 = \langle \mathcal{D}, \mathcal{I} \rangle$ with

$$\begin{array}{ll}
 \mathcal{D} = & \{a\} \\
 \mathcal{I} : & P \mapsto \{\} \\
 & R \mapsto \{\}
 \end{array}$$

Structure $\mathcal{S}_5 = \langle \mathcal{D}, \mathcal{I} \rangle$ with

$$\begin{array}{ll}
 \mathcal{D} = & \{a\} \\
 \mathcal{I} : & P \mapsto \{\} \\
 & R \mapsto \{\}
 \end{array}$$