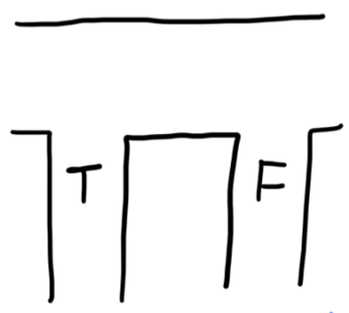
Theorem: SAT is polynomial-time reducible to whether Mario can win a level.

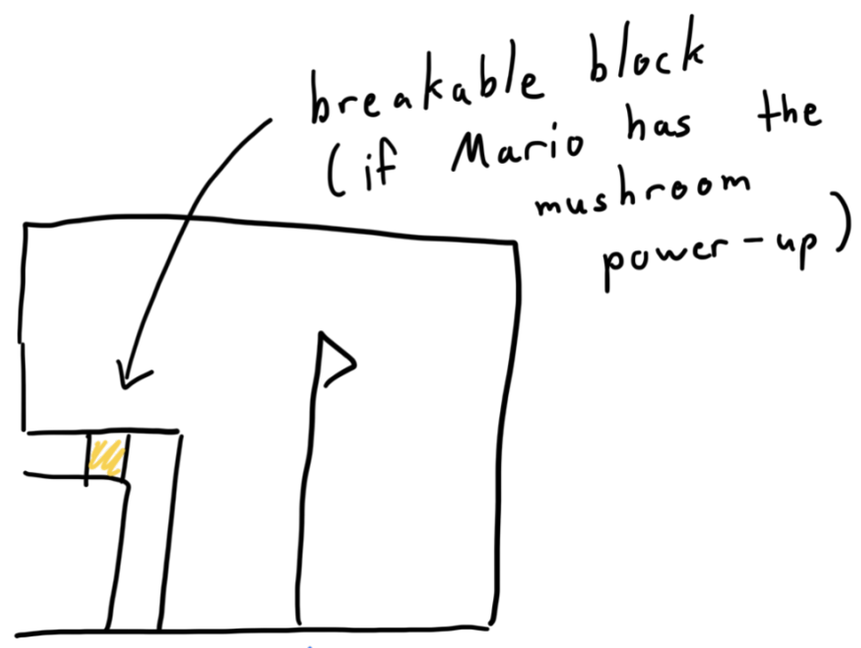
Let the following be nontrivial building blocks for a Mario level (called "gadgets")



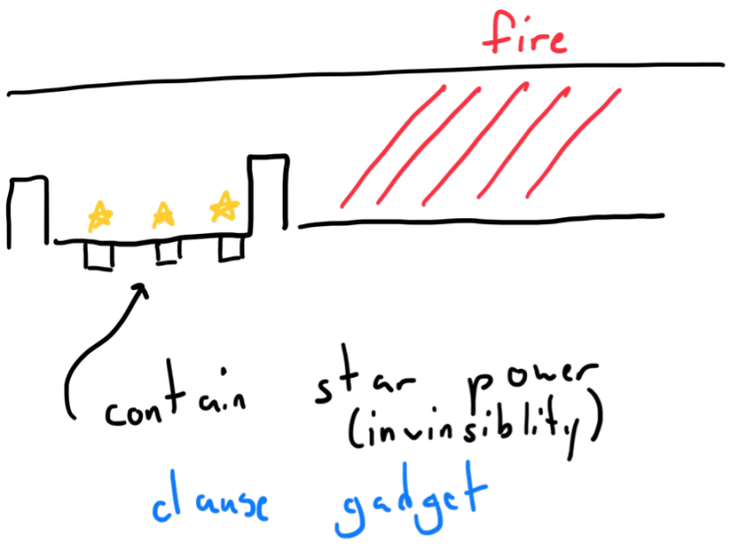

start gadget



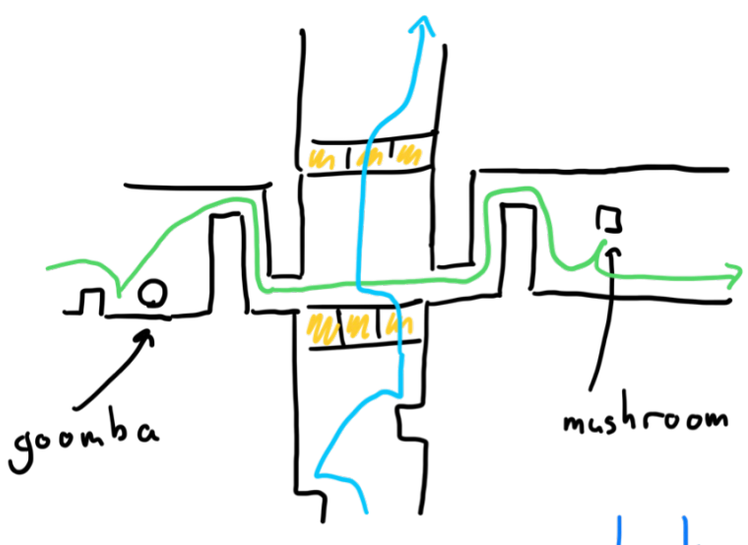

variable gadget




finish



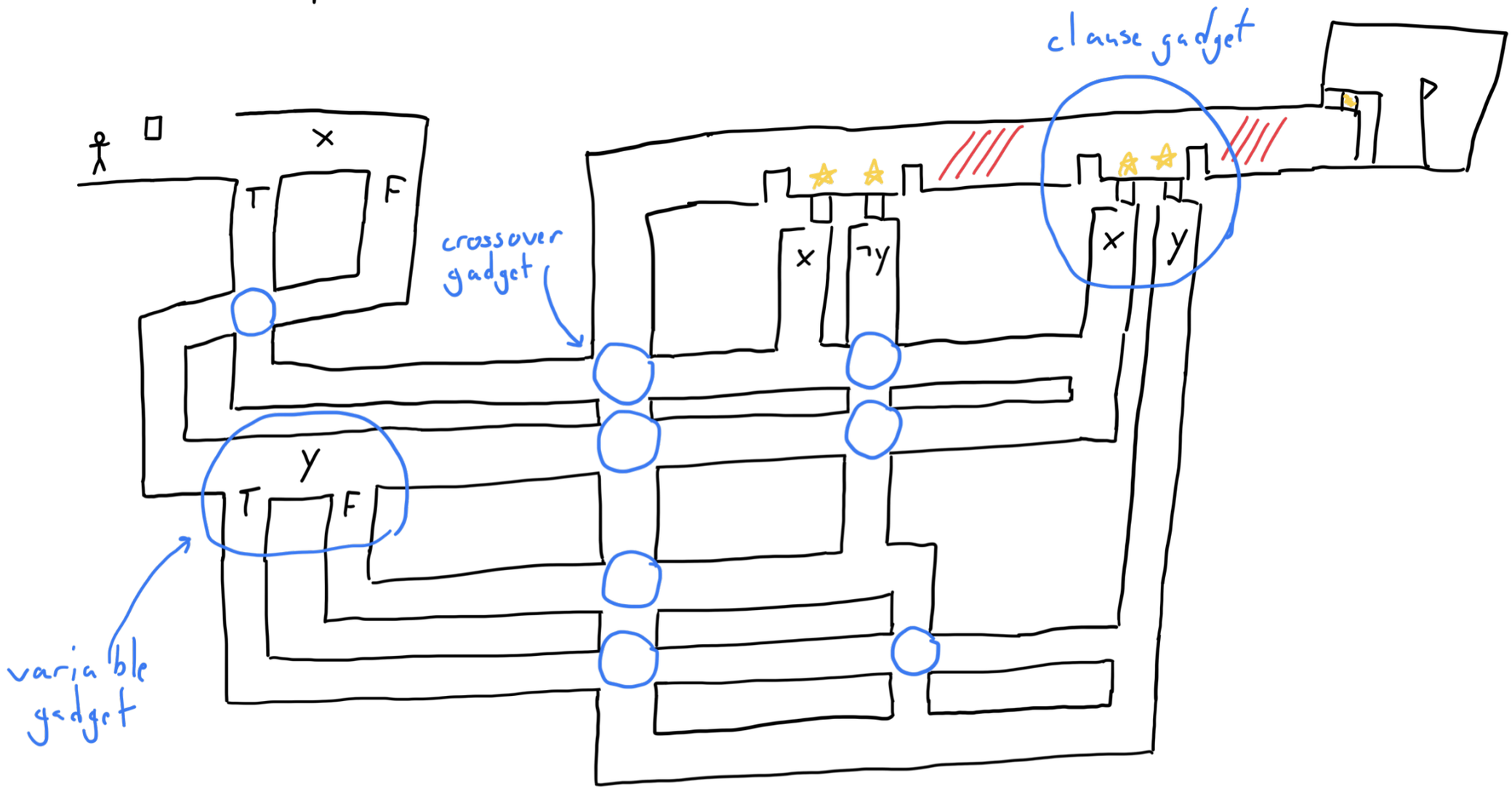

clause gadget




crossover gadget

Given a SAT formula $\psi$, we can construct a logically equivalent Mario level.

For example, let $\psi = (x \vee \neg y) \wedge (x \vee y)$.




Mario can win iff $\psi$ can be satisfied.

