```
procedure sat(φ)
    "guess" a set t_φ ⊆ cl(φ) s.t. φ ∈ t_φ
    return K-World(t_φ, cl(φ))

procedure K-World(t, Σ)
    if t is not a type then
      return "unsat"
    foreach formula ◇ψ ∈ t do
      set Σ_ψ := cl({ϑ | ◇ϑ ∈ Σ})
      "guess" a set t_ψ ⊆ Σ_ψ s.t. ψ ∈ t_ψ and ¬◇ϑ ∈ t implies ¬ϑ ∈ t_ψ
      if K-World(t_ψ, Σ_ψ) = "unsat" then
        return "unsat"
    return "sat"
```

Definition 4.19 Let φ be a formula and Γ a set of formulas. We set

$$\begin{aligned} \mathsf{cl}(\varphi) &:= \{\psi, \neg\psi \mid \psi \text{ is subformula of } \varphi\} \\ \mathsf{cl}(\Gamma) &:= \bigcup_{\psi\in\Gamma} \mathsf{cl}(\psi). \end{aligned}$$

Definition 4.20 Let φ by a formula and Γ a set of formulas. A *type for* Γ is a set $t \subseteq \mathsf{cl}(\Gamma)$ satisfying the following conditions:

1. for each $\neg\psi \in \mathsf{cl}(\Gamma)$, $\psi \in t$ iff $\neg\psi \notin t$;
2. for each $\psi_1 \wedge \psi_2 \in \mathsf{cl}(\Gamma)$, $\psi_1 \wedge \psi_2 \in t$ iff $\psi_1, \psi_2 \in t$.

A *type for* φ is a type for $\{\varphi\}$.