```
global variables: V a set, E ⊆ V × V, ▷ ⊆ V × V and ψ : V → wff

procedure EXPAND(v ∈ V):
    if v is an uncovered leaf then
        for all actions (M_v(v), T, m) ∈ Δ
            add a new vertex w to V and a new edge (v, w) to E;
            set M_v(w) ← m and ψ(w) ← TRUE;
            set M_e(v, w) ← T

procedure REFINE(v ∈ V):
    if M_v(v) = l_f and ψ(v) ≢ FALSE then
        let π = (v_0, T_0, v_1) ··· (v_{n−1}, T_{n−1}, v_n) be the unique path from ϵ to v
        if 𝒰(π) has an interpolant Â_0, ..., Â_n then
            for i = 0 ... n:
                let φ = Â_i^⟨−i⟩
                if ψ(v_i) ⊭ φ then
                    remove all pairs (·, v_i) from ▷
                    set ψ(v_i) ← ψ(v_i) ∧ φ
        else abort (program is unsafe)

procedure COVER(v, w ∈ V):
    if v is uncovered and M_v(v) = M_v(w) and v ⋢ w then
        if ψ(v) ⊨ ψ(w) then
            add (v, w) to ▷;
            delete all (x, y) ∈ ▷, s.t. v ⊑ y;
```

Fig. 4. Three basic unwinding steps