**Pr: (a<0) ∨ (b=1) ∧ (c>2) ∨ (D ∧ !E)**

A picture containing text, whiteboard, bird, flock

Description automatically generated

SN1t = {(<)}

SN1f = {(=), (>)}

SN2t = {(=)}

SN2f = {(<), (>)}

SN3t = {(>)}

SN3f = {(=), (<)}

SN4t = SN5t = {(t)}

SN4f = SN5f = {(f)}

**Traverse the tree and compute the constraint set for each internal node**

SN6t = SN5f = {(f)}

SN6f = SN5t = {(t)}

SN7t = SN2t SN3t = {(=)}  {(>)} = {(=, >)}

SN7f = (SN2f × {(tN3)}) ⋃ ({(tN2)} × SN3f)

= ({(<), (>)} × {(>)}) ⋃ ({(=)} × {(=), (<)})

= {(<, >), (>, >)} ⋃ {(=, =), (=, <)}

= {(<, >), (>, >), (=, =), (=, <)}

SN8t = SN4t SN6t = {(t)}  {(f)} = {(t, f)}

SN8f = (SN4f ×tN6)}) ⋃ ({(tN4)} × SN6f)

= ({(f)} × {(f)}) ⋃ ({(t)} × {(t)})

= {(f, f)} ⋃ {(t, t)}

= {(f, f), (t, t)}

SN9t = (SN1t ×fN7)}) ⋃ ({(fN1)} × SN7t) (pick a false for node 7 and node 1 !!!!)

= ({(<)} × {(<, >), (>, >), (=, =), (=, <)}) ⋃ ({(=), (>)} × {(=, >)})

= {(<, <, >), (<, >, >), (<, =, =), (<, =, <)} ⋃ {(=, =, >), (>, =, >)}

= {(<, <, >), (<, >, >), (<, =, =), (<, =, <), (=, =, >), (>, =, >)}

SN9f = SN1f SN7f (pick a first node 4:3 set)

= {(=), (>)} {(<, >), (>, >), (=, =), (=, <)}

= {(=, <, >), (>, >, >), (>, =, <), (>, =, =)}

SN10t = (SN9t ×fN8)}) ⋃ ({(fN9)} × SN8t)

= ({(<, <, >), (<, >, >), (<, =, =), (<, =, <), (=, =, >), (>, =, >)} × {(f, f), (t, t)})

⋃ ({(=, <, >), (=, >, >), (=, =, <), (>, <, >), (>, >, >), (>, =, =), (>, =, <)}

× {(t, f)})

\*\*\*\*\*\*\*\*\* Unsure from this point… I think my AST must be wrong; when I distribute the relationships, it grows too large for any conceivably correct answer \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*