

## Formulas of the Forward Chaining Inference Engine

Ambient values matrices =  $S1_{tend-tstart}, S2_{tend-tstart}, \dots, Sitend-tstart$

Behavioural parameter =  $P1, P2, \dots, Pj$

Rules =  $R1, R2, \dots, Rk$

Activities of daily living =  $ADL1, ADL2, \dots, ADL8$

$R1 = ( S1_{tend-t0} > P1 ) \square ( S2_{tend-t0} = P2 ) \square \dots \square ( Sitend-t0 \geq Pj )$

$R2 = ( S3_{tend-t0} \leq P3 ) \square ( S1_{tend-t0} > P4 ) \square \dots \square ( Sitend-t0 = Pj )$

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$Rk = ( S2_{tend-t0} = P4 ) \square ( S4_{tend-t0} \leq P2 ) \square \dots \square ( Sitend-t0 \neq Pj )$