

Classes

$Action \sqsubseteq Event$

$Agent \sqsubseteq \top$

$Agent \sqsubseteq \neg Role$

$Agent \sqsubseteq \neg Commitment$

$Agent \sqsubseteq \neg AgentInRole$

$Agent \sqsubseteq \neg Event$

$Agent \sqsubseteq \neg TemporalProp$

$AgentInRole \sqsubseteq \top$

$AgentInRole \sqsubseteq \neg TemporalProp$

$AgentInRole \sqsubseteq \neg Agent$

$AgentInRole \sqsubseteq \neg Role$

$AgentInRole \sqsubseteq \neg Commitment$

$AgentInRole \sqsubseteq \neg Event$

$Commitment \sqsubseteq \top$

$Commitment \sqsubseteq \exists hasDebtor$

$Commitment \sqsubseteq = 1 hasCondition$

$Commitment \sqsubseteq \exists hasCreditor$

$Commitment \sqsubseteq = 1 hasContent$

$Commitment \sqsubseteq \neg Agent$

$Commitment \sqsubseteq \neg TemporalProp$

$Commitment \sqsubseteq \neg AgentInRole$

$Commitment \sqsubseteq \neg Event$

$Commitment \sqsubseteq \neg Role$

$Event \sqsubseteq \neg Role$

$Event \sqsubseteq \neg TemporalProp$

$Event \sqsubseteq \neg Commitment$

$Event \sqsubseteq \neg Agent$

$Event \sqsubseteq \neg AgentInRole$

$IsFalse \sqsubseteq TemporalProp$

$IsFalse \sqsubseteq \neg IsTrue$

$IsFulfilled \equiv \exists hasContent.IsTrue$

$IsFulfilled \sqsubseteq Commitment$

$IsFulfilled \sqsubseteq \neg IsViolated$

$IsPending \equiv \exists hasCondition.IsTrue \sqcap \exists hasContent.NotKIsFalse \sqcap \exists hasContent.NotKIsTrue$

$IsPending \sqsubseteq Commitment$

$IsTrue \sqsubseteq TemporalProp$

$IsTrue \sqsubseteq \neg IsFalse$

$IsViolated \equiv \exists hasCondition.IsTrue \sqcap \exists hasContent.IsFalse$

$IsViolated \sqsubseteq Commitment$

$IsViolated \sqsubseteq \neg IsFulfilled$

$KisFalse \equiv \perp$

$KisFalse \sqsubseteq IsFalse$

$KisTrue \equiv \{tpTrue\}$

$KisTrue \sqsubseteq IsTrue$

$\text{NotKisFalse} \equiv \text{TemporalProp} \sqcap \neg \text{KisFalse}$
 $\text{NotKisFalse} \sqsubseteq \text{TemporalProp}$
 $\text{NotKisTrue} \equiv \text{TemporalProp} \sqcap \neg \text{KisTrue}$
 $\text{NotKisTrue} \sqsubseteq \text{TemporalProp}$
 $\perp \equiv \text{KisFalse}$
 $\text{Role} \sqsubseteq \top$
 $\text{Role} \sqsubseteq \neg \text{Agent}$
 $\text{Role} \sqsubseteq \neg \text{Event}$
 $\text{Role} \sqsubseteq \neg \text{AgentInRole}$
 $\text{Role} \sqsubseteq \neg \text{Commitment}$
 $\text{Role} \sqsubseteq \neg \text{TemporalProp}$
 $\text{TPNeg} \sqsubseteq \exists \text{idTPNegSelf}$
 $\text{TPNeg} \sqsubseteq \text{TemporalProp}$
 $\text{TPNeg} \sqsubseteq \neg \text{TPPos}$
 $\text{TPPos} \sqsubseteq \exists \text{idTPPosSelf}$
 $\text{TPPos} \sqsubseteq \text{TemporalProp}$
 $\text{TPPos} \sqsubseteq \neg \text{TPNeg}$
 $\text{TemporalProp} \equiv \text{TPNeg} \sqcup \text{TPPos}$
 $\text{TemporalProp} \sqsubseteq = 1 \text{ hasEnd}$
 $\text{TemporalProp} \sqsubseteq = 1 \text{ hasStart}$
 $\text{TemporalProp} \sqsubseteq = 1 \text{ hasAction}$
 $\text{TemporalProp} \sqsubseteq \neg \text{AgentInRole}$
 $\text{TemporalProp} \sqsubseteq \neg \text{Event}$
 $\text{TemporalProp} \sqsubseteq \neg \text{Commitment}$
 $\text{TemporalProp} \sqsubseteq \neg \text{Agent}$
 $\text{TemporalProp} \sqsubseteq \neg \text{Role}$

Object properties

$\exists \text{ hasAction} \sqsubseteq \text{TemporalProp}$
 $\top \sqsubseteq \forall \text{ hasAction. Action}$
 $\exists \text{ hasActor} \sqsubseteq \text{Action}$
 $\top \sqsubseteq \forall \text{ hasActor. Agent}$
 $\exists \text{ hasCondition} \sqsubseteq \text{Commitment}$
 $\top \sqsubseteq \forall \text{ hasCondition. TemporalProp}$
 $\exists \text{ hasContent} \sqsubseteq \text{Commitment}$
 $\top \sqsubseteq \forall \text{ hasContent. TemporalProp}$
 $\exists \text{ hasCreditor} \sqsubseteq \text{Commitment}$
 $\top \sqsubseteq \forall \text{ hasCreditor. Agent}$
 $\exists \text{ hasDebtor} \sqsubseteq \text{Commitment}$
 $\top \sqsubseteq \forall \text{ hasDebtor. Agent}$
 $\exists \text{ hasRole} \sqsubseteq \text{AgentInRole}$
 $\top \sqsubseteq \forall \text{ hasRole. Role}$
 $\top \sqsubseteq \leq 1 \text{ idTPNeg}$
 $\exists \text{ idTPNeg} \sqsubseteq \text{TPNeg}$

$\top \sqsubseteq \forall idTPNeg. TPNeg$
 $\top \sqsubseteq \leq 1 idTPPos$
 $\exists idTPPos \sqsubseteq TPPos$
 $\top \sqsubseteq \forall idTPPos. TPPos$
 $isInConflict \equiv isInConflict^-$
 $\exists isInConflict \sqsubseteq Commitment$
 $\top \sqsubseteq \forall isInConflict. Commitment$
 $\exists isPlayedBy \sqsubseteq AgentInRole$
 $\top \sqsubseteq \forall isPlayedBy. Agent$

Data properties

$\exists happensAt \sqsubseteq Event$
 $\top \sqsubseteq \forall happensAt. integer$
 $\exists hasEnd \sqsubseteq TemporalProp$
 $\top \sqsubseteq \forall hasEnd. integer$
 $\exists hasStart \sqsubseteq TemporalProp$
 $\top \sqsubseteq \forall hasStart. integer$

Individuals

$Agent(anna)$
 $Agent(bob)$
 $Commitment(c1)$
 $hasContent(c1, tpPayBook1)$
 $hasCondition(c1, tpDeliverBook1)$
 $hasCreditor(c1, bob)$
 $Commitment(c2)$
 $hasCreditor(c2, anna)$
 $hasCondition(c2, tpTrue)$
 $hasContent(c2, tpDeliverBook1)$
 $Commitment(c2Neg)$
 $hasContent(c2Neg, tpNotDeliverBook1)$
 $hasCondition(c2Neg, tpTrue)$
 $Commitment(c3)$
 $hasContent(c3, tpNotDeliverCd1)$
 $hasCondition(c3, tpTrue)$
 $hasCreditor(c3, anna)$
 $Action(deliverBook1)$
 $hasActor(deliverBook1, bob)$
 $happensAt(deliverBook1, 1)$
 $Action(deliverCD1)$
 $hasActor(deliverCD1, bob)$
 $Event(elapse)$

happensAt(elapse, 0)
happensAt(elapse, 1)
Action(payBook1)
hasActor(payBook1, anna)
TPPos(tpDeliverBook1)
hasAction(tpDeliverBook1, deliverBook1)
hasStart(tpDeliverBook1, 1)
hasEnd(tpDeliverBook1, 2)
TPNeg(tpNotDeliverBook1)
hasAction(tpNotDeliverBook1, deliverBook1)
hasStart(tpNotDeliverBook1, 1)
hasEnd(tpNotDeliverBook1, 2)
TPNeg(tpNotDeliverCd1)
hasAction(tpNotDeliverCd1, deliverCD1)
hasEnd(tpNotDeliverCd1, 3)
hasStart(tpNotDeliverCd1, 0)
TPPos(tpPayBook1)
hasAction(tpPayBook1, payBook1)
hasEnd(tpPayBook1, 3)
hasStart(tpPayBook1, 1)
TemporalProp(tpTrue)
IsTrue(tpTrue)
deliverCD1 \neq deliverBook1

tpDeliverBook1 \neq tpPayBook1

c1 \neq c2

payBook1 \neq deliverCD1

c3 \neq c2Neg

c2Neg \neq c2

c3 \neq c2

c2Neg \neq c1

c3 \neq c1

elapse \neq deliverBook1

tpNotDeliverBook1 \neq tpTrue

tpTrue \neq tpNotDeliverCd1

elapse \neq deliverCD1

tpDeliverBook1 \neq tpTrue

bob \neq anna

tpNotDeliverBook1 \neq tpNotDeliverCd1

payBook1 \neq deliverBook1

payBook1 \neq elapse

tpTrue \neq tpPayBook1