

[String]

EvtS

idEv: String

Patient

idP: String

Nurse

idN: String

PMS

subEvtS: \mathbb{F} EvtS

subPatient: \mathbb{F} Patient

subNurse: \mathbb{F} Nurse

PatientToEvtS: Patient \leftrightarrow EvtS

NurseToPatient: Nurse \leftrightarrow Patient

NurseToEvtS: Nurse \leftrightarrow EvtS

PatientToNurse: Patient \leftrightarrow Nurse

EvtSToPatient: EvtS \leftrightarrow Patient

EvtSToNurse: EvtS \leftrightarrow Nurse

dom NurseToEvtS \subseteq subNurse

ran NurseToEvtS \subseteq subEvtS

dom NurseToPatient \subseteq subNurse

ran NurseToPatient \subseteq subPatient

dom PatientToEvtS \subseteq subPatient

ran PatientToEvtS \subseteq subEvtS

dom PatientToNurse \subseteq subPatient

ran PatientToNurse \subseteq subNurse

dom EvtSToNurse \subseteq subEvtS

ran EvtSToNurse \subseteq subNurse

dom EvtSToPatient \subseteq subEvtS

ran EvtSToPatient \subseteq subPatient

subEvtS ≤ 3

subEvtS > 0

$\forall x: \text{subEvtS} \cdot \# (\text{EvtSToNurse} (\{x\})) \leq 5$

$\forall x: \text{subEvtS} \cdot \# (\text{EvtSToPatient} (\{x\})) \leq 15$

$\forall x: \text{subPatient} \cdot \# (\text{PatientToEvtS} (\{x\})) = 1$

$\forall x: \text{subPatient} \cdot \# (\text{PatientToNurse} (\{x\})) = 1$

$\forall x: \text{subNurse} \cdot \# (\text{NurseToEvtS} (\{x\})) = 1$

$\forall x: \text{subNurse} \cdot \# (\text{NurseToPatient} (\{x\})) \leq 2$

InsertEvtS

Δ PMS

x?: EvtS

x? \notin subEvtS

$subEvtS' = subEvtS \cup \{x?\}$
 $subNurse' = subNurse$
 $subPatient' = subPatient$
 $NurseToPatient' = NurseToPatient$
 $PatientToNurse' = PatientToNurse$
 $PatientToEvtS' = PatientToEvtS$
 $EvtSToPatient' = EvtSToPatient$
 $EvtSToNurse' = EvtSToNurse$
 $NurseToEvtS' = NurseToEvtS$

InsertNurse

ΔPMS
 $x?: EvtS$
 $y?: Nurse$

$x? \in subEvtS$
 $y? \notin subNurse$
 $subNurse' = subNurse \cup \{y?\}$
 $subEvtS' = subEvtS$
 $subPatient' = subPatient$
 $NurseToPatient' = NurseToPatient$
 $PatientToNurse' = PatientToNurse$
 $PatientToEvtS' = PatientToEvtS$
 $EvtSToPatient' = EvtSToPatient$
 $EvtSToNurse' = EvtSToNurse \cup \{(x?, y?)\}$
 $NurseToEvtS' = NurseToEvtS \cup \{(y?, x?)\}$

InsertPatient

ΔPMS
 $x?: EvtS$
 $y?: Nurse$
 $z?: Patient$

$x? \in subEvtS$
 $y? \in subNurse$
 $z? \notin subPatient$
 $(x?, y?) \in EvtSToNurse$
 $(y?, x?) \in NurseToEvtS$
 $subEvtS' = subEvtS$
 $subPatient' = subPatient \cup \{z?\}$
 $NurseToPatient' = NurseToPatient \cup \{(y?, z?)\}$
 $PatientToNurse' = PatientToNurse \cup \{(z?, y?)\}$
 $PatientToEvtS' = PatientToEvtS \cup \{(z?, x?)\}$
 $EvtSToPatient' = EvtSToPatient \cup \{(x?, z?)\}$
 $subNurse' = subNurse$
 $EvtSToNurse' = EvtSToNurse$
 $NurseToEvtS' = NurseToEvtS$