

### Phase 3

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For part 2 we created 8 different triggers to enforce the given constraints

- a) If a doctor visits a patient in the ICU, they must leave a comment.
  - i) We created the trigger ICUNotesNotNull for this constraint. We had the trigger occur before the operation, and the trigger was called on every insert and update, and the granularity was for each row.
- b) The insurance payment should be calculated automatically as 65% of the total payment. If the total payment changes then the insurance amount should also change.
  - i) We created the trigger InsuranceCalculation for this constraint. We had the trigger occur before the operation and the trigger was called on every insert and update, and the granularity was for each row.
- c) Ensure that regular employees (with rank 0) must have their supervisors as division managers (with rank 1). Also each regular employee must have a supervisor at all times.
  - i) We created the trigger RegularHasDivision for this constraint. We had the trigger occur before the operation and the trigger was called on every insert and update, and the granularity was for each row. For these triggers we had our different levels of employees differentiated through a string of either "regular employee", "division manager", or "general manager" rather than 0, 1, and 2.
- d) Similarly, division managers (with rank 1) must have their supervisors as general managers (with rank 2). Division managers must have supervisors at all times. General Managers must not have any supervisors.
  - i) We created the trigger DivisionHasGeneral and GeneralHasNoSuper for this constraint. We had the triggers occur before the operation and the triggers were called on every insert and update, and the granularity was for each row.
- e) When a patient is admitted to an Emergency Room (a room with an Emergency service) on date D, the futureVisitDate should be automatically set to 2 months after that date, i.e., D + 2 months.
  - i) We created the trigger Emergency for this constraint. We had the trigger occur before the operation and the trigger was called on every insert, and the granularity was for each row.
- f) If a piece of equipment is of type 'CT Scanner' or 'Ultrasound', then the purchase year must be not null and after 2006.
  - i) We created the trigger CTUltraNotNullAfter2006 for this constraint. We had the trigger occur before the operation and the trigger was called on every insert and update, and the granularity was for each row.
- g) When a patient leaves the hospital (Admission leave time is set), print out the patient's first and last name, address, all of the comments from doctors involved in that admission, and which doctor (name) left each comment.

- i) We created the trigger PrintInformationOfVisit for this request. We had the trigger occur after the operation and the trigger was called on only updates and the granularity was for each row.