Department of Computer Science and Engineering

Sistemas de Informação e Bases de Dados

Lab 05 : Conversion to SQL

PART I – Translation to SQL

For each of the following Entity-Association diagrams:

a) Derive the corresponding SQL database schema providing adequate field types and specifying primary and foreign keys.
b) For each table, write down clearly in comments the integrity constraints that are represented in the E-A model that cannot be guaranteed by the database schema constraints.
c) Indicate clearly, as comments of to the tables, those integrity constraints that apply to multiple tables

Diagram 1

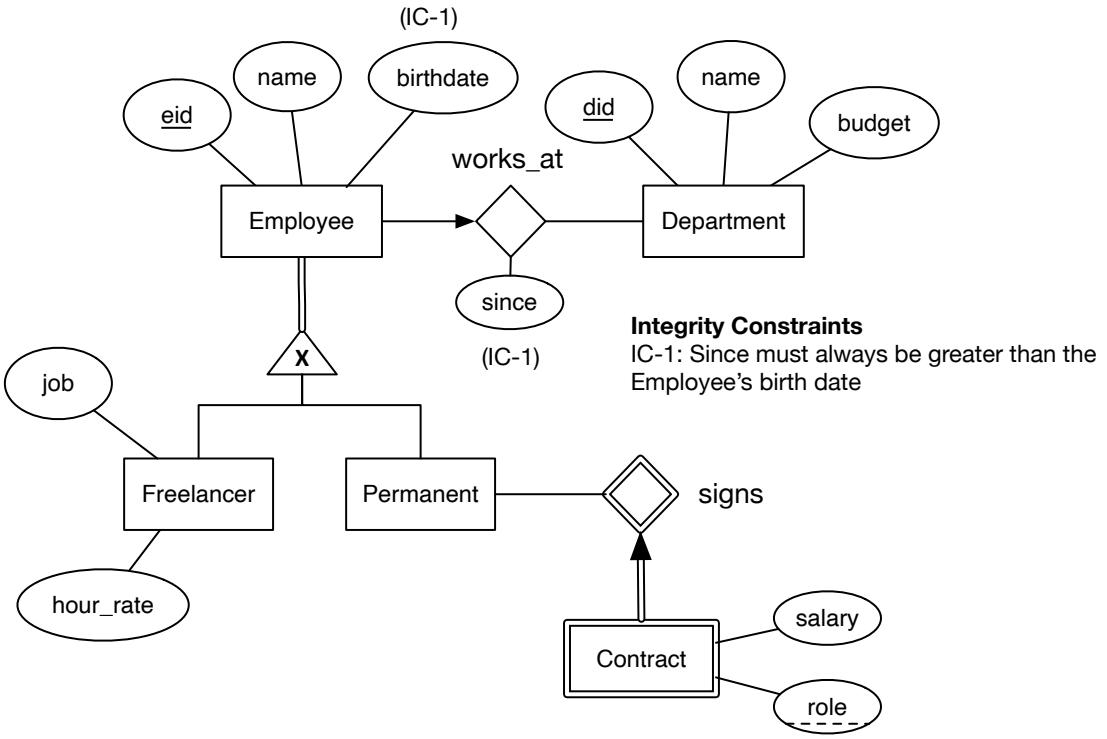
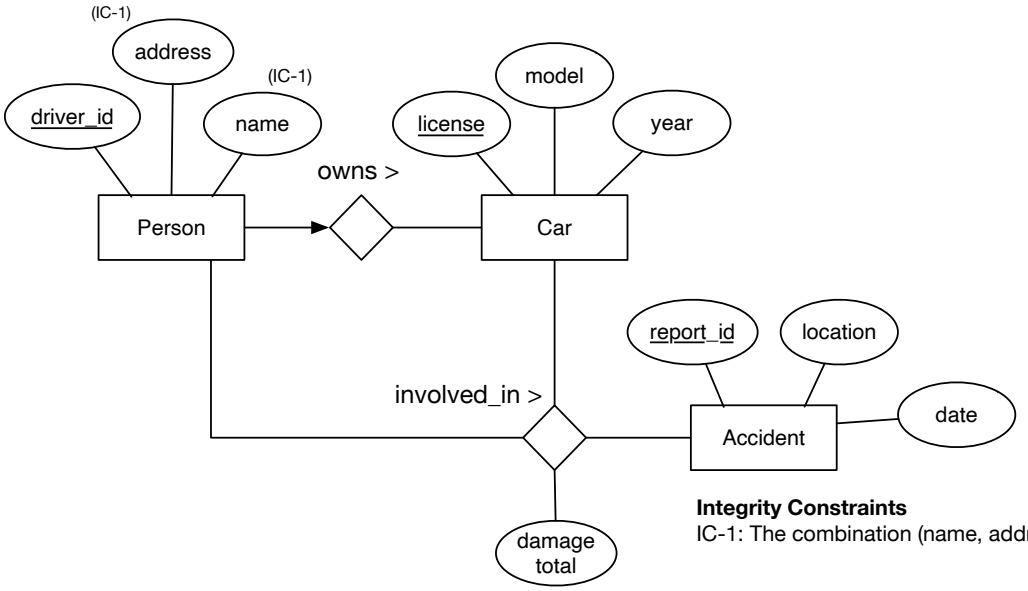
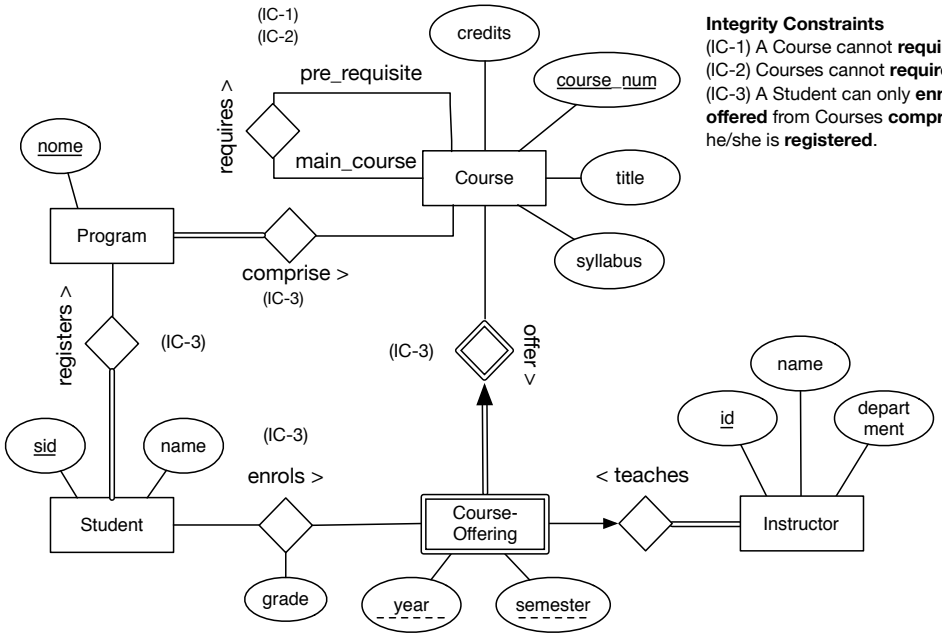


Diagram 2



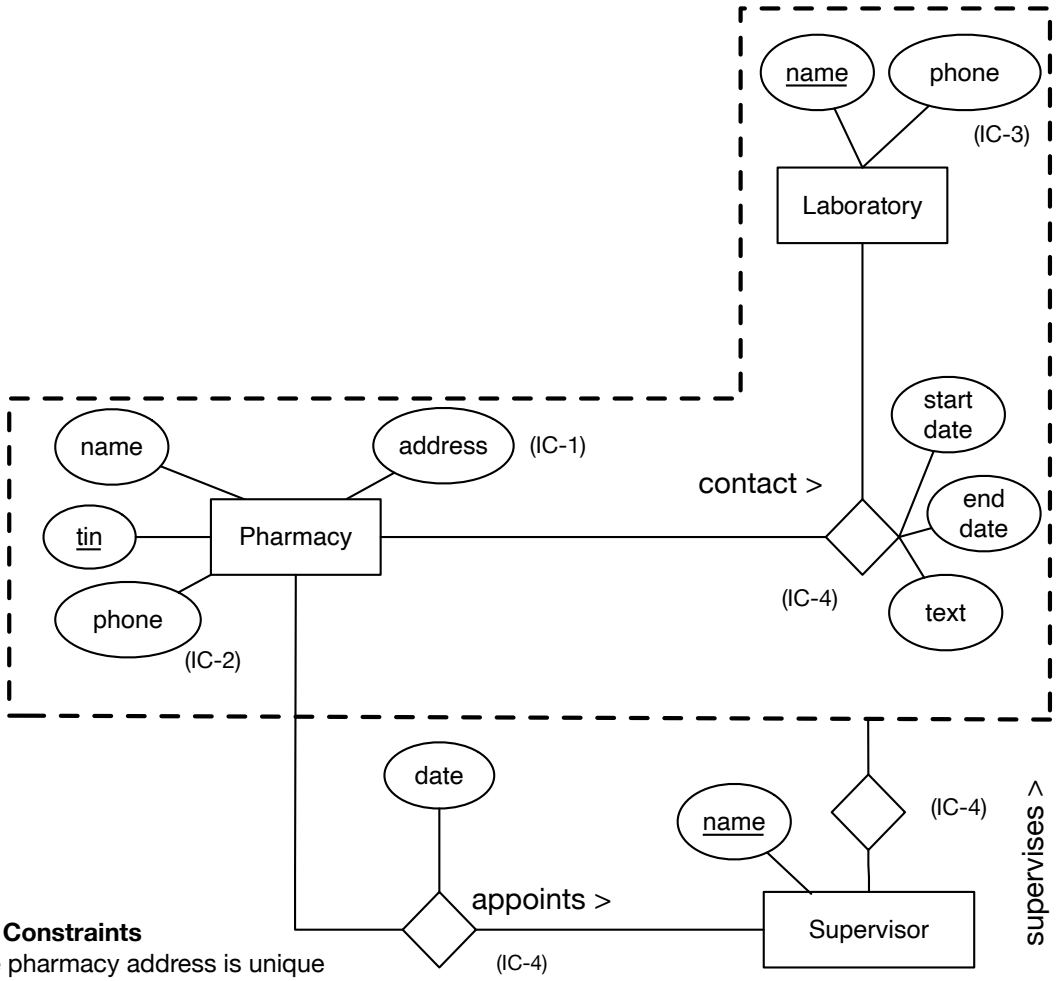
Integrity Constraints
IC-1: The combination (name, address) is unique

Diagram 3



Integrity Constraints
(IC-1) A Course cannot **require** itself
(IC-2) Courses cannot **require** one another circularly
(IC-3) A Student can only **enrol** in Course Offerings **offered** from Courses **comprised by** the Program where he/she is **registered**.

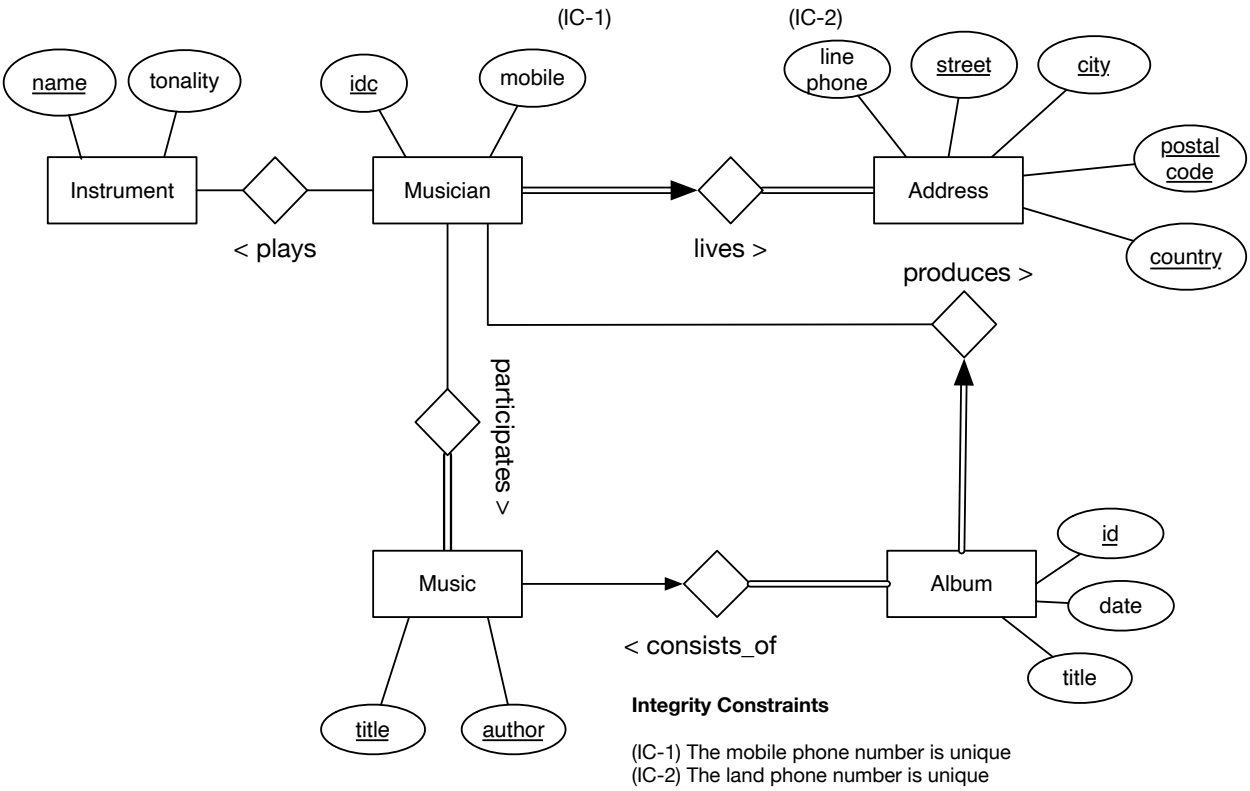
Diagram 4



Integrity Constraints

IC-1: The pharmacy address is unique
IC-2: The pharmacy phone number is unique
IC-3: Laboratory phone number is unique
IC-4: A Supervisor can only **supervise** Pharmacies for which he has been **apointed**

Diagram 5



PART II – Database Creation and Population

1. Connect to the Postgres database server (using the instructions in Lab 01). Create the tables and integrity constraints corresponding to the relational schema you obtained.

2. Present the SQL instructions to create, in your database:

   - A musician with the citizen card **13747098**, with the mobile phone **915 634 353**, who lives at "**Rua António de Oliveira Salazar, N27, 1640-091 Lisbon"**. The line telephone number of this address is **216785491**.
   - A **guitar** with tonality **C major**.

- A song called "**The Charms of the Earth"**, authored by "**Nightingale Faduncho",** included on the album **"A Minha Vida"** (id: **81246).**This album was released on CD on **03/10/2016**.