

Domination Normal Form - Decomposing Relational Database Schemas (sic)

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5 An Example

A (sic) university has oral examinations at the end of each semester, and wants to manage related data using a relational database. The relevant attributes to be stored are

$$R = \{Student, Course, Chapter, Time, Room\}$$

Here Chapter denotes a chapter from the course textbook the student will be examined about. Every student can get examined about multiple chapters, and chapters may vary for each student. Multiple students can get examined at the same time in the same room, but the course must be the same. Further constraints are that a student gets examined for a course only once, and can't be in multiple rooms at the same time.

Errata

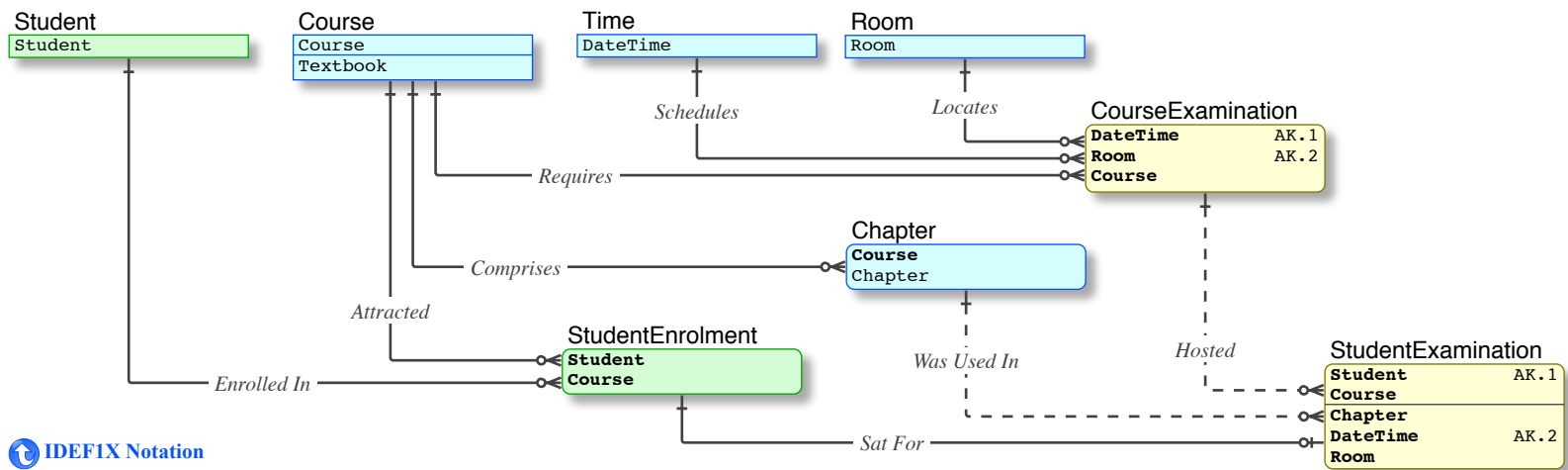
The poor guy expresses himself backwards ! Second, some requirements are missing. By "multiple chapters" apparently he means:

- multiple courses per student
- one exam per course
- one chapter per exam

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Data Model

In order to record the facts given (above), and to understand the data, a Relational data model has been erected.



IDEFIX Notation

Note

- 1 In the requirements *course* is substitutes with *chapter*. Otherwise the requirements are incoherent. Corrected per errata.
- 2 The facts regarding the data, as given in text form, have been translated into Relational form. Verification is requested.
- 3 No keys were given in the source document. Other than to support the given facts, Key determination has not been attempted.
 - StudentExamination.PK provides: *a student gets examined for a course only once*
 - StudentExamination.AK provides: *a student can't be in multiple rooms at the same time*
 - CourseExamination.AK provides (restated): *one course per {DateTime, Room}*
- 4 The "functional dependencies" given in the referenced document have not been examined. Key determination from "functional dependencies" has not been attempted.
- 5 The model is by no means complete or final, the stage is fact or requirement verification.

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