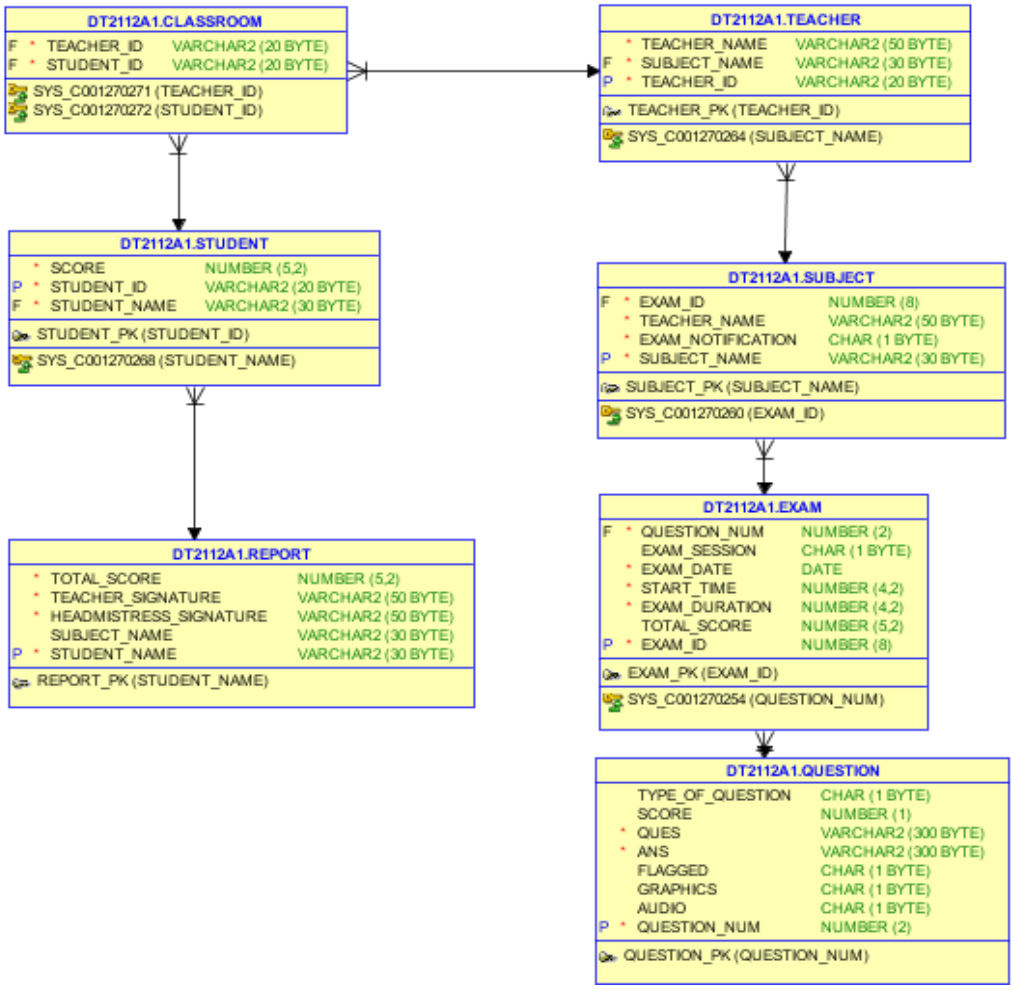


Project: Automated Exams

Members:

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We are given a group assignment to work on developing an automated exam system. Firstly, we divided the tasks that were given in the lab to create a data model for our case study. Each member received their task to work on during the lab. Buchita and Jack Doyle were working on analysing the case study, identify how many tables, attributes, primary and foreign keys the case study has. Jack Duggan started designing up a draft data model using the information Buchita and Jack Doyle had gathered. Once we had a general idea of what we should be doing, each member picked which tables they want to create. Each member got around 2-3 tables to work on. We drew up tables with no constraints first then added in constraints later after we were happy with what we got. Then we combined the code together at the end. We then populated the tables with a few values each table. Finally, we used select statements to check the tables and their values.

We encountered some difficulties while trying to do this case study. Problem number 1, someone was using our schema, we had to figure out how to drop their tables. Problem number 2, we spent a good amount of time trying to figure out how to insert values in our tables. Since most of the tables have foreign keys. The values can not be inserted it a table where one of the attributes is referencing other table that has an empty value of that attributes. We figured out that we should start populating the tables that do not contain foreign key first then work our way up. However, we ran into a problem again where we couldn't insert values in classroom, teacher, subject, exam and question. Problem number 3, one of our members was unable to attend college due to personal reason. Last problem, once we coded up our tables and tried generating the data modeler using oracle data modeler, the relationship arrows were not what we wanted. We tried to figure out how change the arrows, but nothing worked.

The following are the tables we have identified

- Classroom
- Student
- S_Report
- Teacher
- Subject
- Exam
- Question

Classroom acts as a link between teacher and student table. It contains teacher id and student id as a foreign key. Student table contains student name, id and score. Student id is a primary since it has to be unique. Student name is a foreign key to link to S_Report table. Score is a number which has 2 decimal places. S_Report table contains the necessary attributes such as total score, teacher and headmistress signature for the report. Teacher and Headmistress signatures are not null and varchar since they're not a fixed length characters. Teacher table contains teacher name, id and subject. Subject represents the subject the teacher is teaching and it's not null. Subject name is a foreign key which links to subject table from teacher table. Teacher id is a primary. In subject table, there are exam id, teacher name, exam notification and subject name. Exam id is a foreign key that uses to identify which the exam for that subject. Teacher name identifies which teacher is teaching this subject. Exam notification is for notifying students if there is an exam coming up for that subject. Subject name is a primary key. Exam table contains question number, exam session, exam date, start time of the exam, exam duration, total score and exam id. Question number is a foreign key to link to question table. Exam session checks whether is it in summer or winter. Exam date is not null since the exam has to have a date. Start time of the exam is also not null. Exam duration is also not null and exam id which is a primary key. Question table contains type of question, score, question, answer, flagged, graphic, audio and question number. Type of question such as multiple choice, fill in the blank and the standard type of question. Score from that question is a number. Question and the answer for the question are not null. Flagged is for checking whether the question is compulsory or optional. Graphic and audio are for checking whether they are used in the exam. Question number is a primary key of the table.