

Small School Management Application Program

The following narrative describes a simplified version of the organization of management systems for an Ethiopian secondary school. Based on Ethiopian government regulations, a school has several students in each grade level and gives courses with a specific textbook.

Every student has a name (which is a combination of their first name and last name), unique ID, sex, date of birth, address, phone number and monthly fee. Each student has a four digit password (0000 by default) and has one guardian. A number of students attend a class room taking several subjects based on their grade level. Each student must take a certain number of courses to attend their teaching and learning process to the expected amount.

Each guardian has first name, a phone number and will need the status of their relationship type with the student to be stated. A parent can be a guardian of more than one student. Moreover, in this relationship, a student may or may not have a guardian while a guardian can't exist without a student.

An extracurricular activity has a unique name and a brief description of the overall activities outside the regular academic curriculum. The school has lenient rules for students to participate in an activity. An extracurricular activity may exist for students. A single activity can have several students indulging actively while each student can participate in a single activity.

A single classroom has a number of students and gives several subjects. Every room is identified uniquely by its grade level. There are only 4 classrooms based on the grade levels; which are 9, 10, 11 and 12. It's a must for students to be assigned in a classroom and every class room must have students.

A subject or course has a course name and a unique course number. Each subject uses one book but also may not use one at all. The database keeps track of the subjects students' take with the final marks calculated by the division of their average result with the number of subjects they take. Each subject may be taught by an instructor. It's must for a classroom and the students to take at least one subject.

An instructor has a unique id, name (a composite attribute of title, first name and last name), sex, date of birth, phone number, address, salary and a password which is set to 0000 by default. Each instructor teaches one course. And it's a must for a subject to be taught by an instructor.

A book has a title and unique ISBN. It may or may not be used in any course. Each book can only be assigned to one subject if at all.