



HOMEWORK -3-

Homework MUST be handed in via Canvas ONLY and in the correct assignment folder, in one file representing the entire homework. Your name, group number must be included in the document.

NOTE: taking into consideration this exercise builds upon your design solutions in homework 1 & 2

Examine the library management case study file available on Canvas and based on your schemas solutions in homework 1 & 2, answer the following:

1. Write the following constraints for attributes of the relevant relations
 - 1.1. A student cannot borrow more than 7 books at a time
 - 1.2. An administrator cannot borrow more than 12 books at a time
 - 1.3. Max borrow time for students is 3 weeks, and can be renewed online maximum 3 times
 - 1.4. Max borrow time for administrators is 5 weeks, and can be renewed online maximum 3 times
2. You have Identified and introduced constraints on at least one relation in your database schema. What restrictions, if any, do each of these constraints enforce if the value of an attribute is NULL? (Note that this question is more free-form, and you need to make some decisions about relations, appropriate types, and even what information needs to be represented.)
3. Identify user views for the administrators and for students. Provide all necessary domains for the views for both user types. State any assumptions you would make.
4. When designing a database, the database engineer has to somehow protect it from SQL injections. What is a SQL injection and how does one protect against it? (This question is free-form and more focused on the user side rather than the database itself)