CS327E Lecture 9 - Wednesday 2/24/2016

Reading Quiz

1. A
2. A
3. D
4. B
5. D

Concept Questions

1. What's wrong with this table design?
    a. If you had a separate contact table with an id_field and that contact table is storing just a single value, you wouldn't be able to do a join. As a result, you've lost the abilities to do joins.
    b. You cannot do an aggregation on a list of contacts. The functions work on a record by record basis, rather than lists.
    c. You'd have to retrieve records with the contacts, scan lists, and delete the contacts you want from the lists.
    d. Similar to A, but now when you entering contact IDs in a list, you don't know if they're valid.
    e. The answer is all of the above.

2. The intersection table represents a many-to-many relationship between a table of articles and a table of tags. What's wrong with the table design?
    a. This is the answer, because it is possible with this introduction of id to end up with duplicate records.
    b. This is not correct.
    c. This is not correct.
    d. This is not something to worry about because the constraints are just fine.

3. What's wrong with this table design?
    a. This is a valid answer because this table wouldn't even be able to be created without a primary key.
    b. Since there are multiple records, then it will be harder to pull the "correct" record.
    c. Since people move, there will be multiple records that must be updated.
    d. This is the correct answer.

4. This is a table that is designed for storing the room reservations of hotel guests. Can you figure out what's wrong with the design?
    a. The contact information is irrelevant for this table.
    b. You can have guests appear multiple times in the records, so this is not the correct answer.

c. It allows for double-booking, because it is possible to have two guests get a reservation for the same room, in an overlapping time. The CHECK constraint operate at a record at a time level, in fact, they are not aware of the other records in the table.
d. This is fine because the CHECK constraint is >=, not >.
e. This is not the correct answer.

5. How can we improve on the design of the Hotel_Reservation table to guarantee consistency and thus prevent double-bookings? (Refer to **Solutions to Concept Question 5** for code examples)
    a. CHECK constraints only operate on a record by record basis.
    b. We could write a trigger for every record that gets inserted, we would have a trigger that computes logic to see if there's any overlap.
    c. For every single occupied date, we're going to have another record in the table. If somebody is staying five days, we'll end up for five records for that stay.
    d. This is the answer.
    e. This is not the answer.

6. You have a Customer table with an auto-incrementing primary key. You decide to start using the highest key value to find out the total number of customers you have. In MySQL, this would be using the built-in function LAST_INSERT_ID(). What can possibly go wrong?
    a. Since it's declared as a primary key, this option is not valid.
    b. If you ever deleted a record, or inserted a record that failed, the database will cache and automatically increment the primary key, causing a gap. This is the correct answer.
    c. This is not the answer.