Workshop

Midterm 2 (Final Exam)

1. Final midterm is on **December 1st,** and worth 15% of your final grade.
2. The test will take place **In-Person** during your normal lecture section and start exactly at the beginning of your scheduled lecture .
3. Material includes everything from Lecture 9 (Authorization) to the last lecture.
4. While writing your solution, you can look at the course textbook and lecture notes, but no help from other students is allowed.
5. You must bring your laptop with you to write the test, and your attendance must be recorded before you can leave the test room.

Functional Dependency Closure Test

1. Assume set of FDs F = {AB -> C, AB -> D, CD -> EF, F -> G, G -> CD, I -> J}
2. Compute closure of AB+ and the closure of F+.
3. Describe each of the steps in your computation (Basis and Induction).
4. Based on the closure information:
   A. Is it true that AB -> EF?
   B. Is it true that AB -> G?
   C. Is it true that F -> AB?
   D. For each of the points provide justification.

DTD and XML Document

1. Provide DTD and XML Document for PART of your car dealership schema (covering portion of sale table and car table)
2. In your specification include multiplicity, IDs, IDREFs, required and non-required attributes etc.

Anomalies

Provide an example of update and delete anomalies (provide a table with sample data) over the table with movies and actors.

Normalization

1. Assume set of FDs F = {AB -> CD, AB -> E, F -> G} over relation R.
2. What does it mean that relation is in BCNF? (provide definition)
3. Is table R in BCNF? (Provide justification – prove it by closure test.
4. If answer is NO decompose table R to be in BCNF.