

## CS 162 Section 9

**True/False:**

1. Serial schedules are necessary to preserve ACID transaction semantics

**Short Answer:**

1. What does ACID stand for? Explain each of them.
2. What are some elements you might want to lock in a database?
3. What are types of possible conflicts in an execution of multiple transactions?
4. What are the requirements for two transaction operations to conflict?
5. Two schedules are conflict equivalent iff:

**Long Answer:**

1. Consider the following two transactions and schedule (time goes from left to right). Is this schedule conflict-serializable? Explain why or why not.

T1: R1[A] W1[A] R1[B] W1[B]  
T2: R2[A] R2[B]

2. Consider a database with objects X and Y and assume that there are two transactions T1 and T2. T1 first reads X and Y and then writes X and Y. T2 reads and writes X then reads and writes Y. Give an example schedule that is not serializable. Explain why your schedule is not serializable.