

Assignment 6

Due: see course homepage

1. Consider the following modified definition of serializability: *A schedule S is serializable iff it produces the same database state as a serial schedule T , where the transactions in T are exactly those in S , and are ordered in T according to their first appearance in S .* Is this definition: [5 points]

- (a) Correct?
- (b) Overly restrictive: i.e. there are some serializable schedules not covered by this definition?
- (c) Overly permissive: i.e. there are some unserializable schedules that are covered by this definition?
- (d) (ii) and (iii)

Choose one and justify your choice.

2. Bob and Anne share a bank account for their business. Today they went to the bank at the same time. Is the the following schedule conflict serializable? If so, give an equivalent serial schedule. If not, enumerate all the serial schedules, and explain how Bob and Anne's experience would be changed in each. [10 points]

Transaction for Anne		Transaction for Bob	
Looks at checking balance	R(C)		
.....			
		Looks at savings balance	R(S)
.....			
		Looks at checking balance	R(C)
.....			
		Transfer \$200 from checking	W(C)
.....			
		to savings	W(S)
.....			
Withdraw \$100 from checking	W(C)		
.....			
			Commit
.....			
	Commit		