Worksheet #30: Characterizing Solutions to the Dining Philosophers Problem

Name: _____ Netid: _____

For the five solutions studied in today's lecture, indicate in the table below which of the following conditions are possible and why:

1. Deadlock: when all philosopher tasks are blocked (neither thinking nor eating)
2. Livelock: when all philosopher tasks are executing but ALL philosophers are starved (never get to eat)
3. Starvation: when one or more philosophers are starved (never get to eat)
4. Non-Concurrency: when more than one philosopher cannot eat at the same time, even when resources are available

	Deadlock	Livelock	Starvation	Non-concurrency
Solution 1: synchronized				
Solution 2: tryLock/ unLock				
Solution 3: isolated				
Solution 4: object-based isolation				
Solution 5: semaphores