# Assignment 1 (5% of total grade)

## Instructions

Turn in a hard copy of your answers at the beginning of next class, 9/15/2008. Late submission of assignment will not be accepted, no exceptions!

## Questions

1. Are the terms "middleware" and "distributed system" equivalent? If not, what is the difference?
2. Mention a few upsides and downsides of having middleware hide distribution from the application developer (also referred to as "transparency"). What would you recommend to middleware developers?
3. An experimental file server is down 10% of the time, due to software problems. If you are to use replication to alleviate this problem, how many replicas would you need to reduce the down time to 2%?
4. Briefly describe the similarities and differences between RPC and RMI.
5. Under which circumstances would you prefer to use synchronous communication over asynchronous communication, and vice versa?