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CS 6/73201

Exam #1

Advanced OS

Wednesday 24 February 1999

1. Most computer systems discussed in this class are MIMD computers.
 - a. What is a “MIMD” computer? (Explain more than just the acronym.) (6 points)

 - b. Are MIMD computers parallel or distributed machines? Explain your answer. (10 points)

2. The Internet Protocol (IP) is a very common protocol for communication at the network layer.
 - a. What are the main responsibilities of this protocol / layer? (7 points)

 - b. In what ways is IP “unreliable”, and how is this unreliability overcome? (7 points)

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5. What are the (i) advantages and (ii) disadvantages of user-level threads over kernel-level threads? (15 points)

6. What purpose does the ORB serve in a CORBA system? (8 points)

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7. Explain the difference between a symmetric multiprocessor (SMP) (an UMA machine) and a distributed shared memory (DSM) system, in terms of (i) overall architecture, (ii) access of each processor to memory, and (iii) caching. (20 points)