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6.189 Multicore Programming Primer, January (IAP) 2007

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Instructions: Write out your answers clearly in the space provided. You may use both sides of the page if necessary. Please write legibly.

Question 1: It is not far fetched to imagine the “*print*” approach is the most widely used debugging utility. Novice and expert programmers alike use this approach to print out information as their buggy code executes in order to reveal clues about their code defects. This approach works reasonably well in sequential programs with a single thread of execution, but is not likely to be as useful for debugging parallel programs because of the multiple threads of execution.

What complicates the debugging process for parallel codes, and if you were to build a debugging tool, what features might you provide to help programmers track down their bugs productively?