QotD20

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1. Which of the following best explains why the recursive algorithm for calculating a Fibonacci number as a poor run-time?
   (1 point)
   A. The problem inherently requires exponential run-time
   B. Recursive calls have overhead associated with activation records and managing the run-time stack
   ✓ C. The recursive solution recalculates the same subproblem solutions many times

2. The dynamic programming solution to the subset sum problem has a run-time of Theta(MN), where M is the goal sum value and N is the size of the set. This seems to be polynomial. Why is it only "pseudo" polynomial?
   (1 point)
   A. N can be arbitrarily large, even with a small M
   ✓ B. M can be arbitrarily large, even with a small N

C. The premise is incorrect -- the solution is actually polynomial in its run-time