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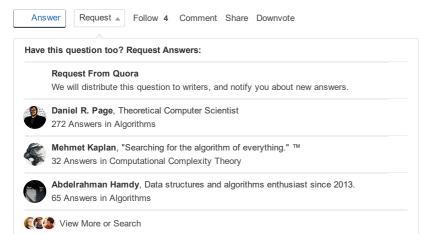
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# Where can I find a comprehensive list of EXPTIMEcomplete problems?

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#### 1 Answer



Travis Hance, algorithms enthusiast Written May 1, 2014

There's the "obvious" one: given a description of a Turing machine M an integer t, determine if M accepts in at most t steps.

Determining who has the winning strategy in a game (for a sufficiently complicated game) is usually PSPACE-complete if the game lasts for polynomially many turns and EXPTIME-complete if the game can last an exponential number of moves. (Roughly, this is because if you need an exponential number of moves, the stack you use to traverse the Minimax needs to be of exponential size, so it doesn't fit in PSPACE). According to the wikipedia page, generalized variants of Chess, Checkers, and Go are all known to be EXPTIME-complete, as these games can take an exponential number of moves.

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Thomas Cormen, I've been teaching Computer Science at Dartmouth College since 1992. Written Jan 12 · Upvoted by Siddarth Sampangi, UCSD B.S. in CS '14; UMass Amherst M.S. in CS '16 and Jessica Su, CS PhD student at Stanford

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