

Automata Theory Computational Complexity Theory Complexity +2

Where can I find a comprehensive list of EXPTIME-complete problems?

Or what is your favorite ExpTime-Complete problem?

Answer

Request

Follow 4

Comment

Share

Downvote

Have this question too? Request Answers:

Request From Quora

We will distribute this question to writers, and notify you about new answers.

Daniel R. Page, Theoretical Computer Scientist
272 Answers in Algorithms

Mehmet Kaplan, "Searching for the algorithm of everything." ™
32 Answers in Computational Complexity Theory

Abdelrahman Hamdy, Data structures and algorithms enthusiast since 2013.
65 Answers in Algorithms

View More or Search

Promoted by Time Doctor

Software for productivity tracking.

Time tracking and productivity improvement software with screenshots and website and applications.

Free Trial at Timedocor.com

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.

1.2k Views · 5 Upvotes · View Timeline

Upvoted 5

Downvote

Comment

Related Questions

[What is the satisfiability problem that is EXPTIME-complete?](#)

[What is a comprehensive list of all of the studied variants and generalizations of the traveling salesman problem?](#)

[What will be the best algorithm to find the minimum number of moves to completely remove all elements of a list, wherein each move we are allo...](#)

[How can I access a list of all the NP-complete and NP-hard problems?](#)

[What are some examples of problems which are: \(1\) NP but not NP-Complete; \(2\) NP-Complete; \(3\) NP-Hard but not NP-Complete?](#)

[What is the list of the most relevant NP-complete or NP-hard problems in finance?](#)

[To what NP - Complete problem \(preferably from Karp's 21 list\) can the Integer Factorisation Problem be reduced?](#)

[I want the complete list of all available dynamic programming problems with solutions. How do I get it? Is there any book for DP particularly?...](#)

[Where can I find the comprehensive list of Text Classification algorithms?](#)

[What are some interesting PSPACE-complete problems?](#)

More Related Questions

Question Stats

4 Public Followers

1,524 Views

Last Asked May 1, 2014

Edits

Top Stories from Your Feed

Answer written · Probability (statistics) · Wed

Where are examples of which 0.1% happened in favor of 99.9%?

Vincent Bian, A part-time student and a full-time nerd.
Written Wed

Find a coin nearby. Flip it 10 times. Write down the result. Boom. Something with probability %0.098 just happened. Sure, some sequences, like 10 heads, are more exciting than others, but your odds of that one...

Thomas Cormen wrote this · Jan 12

I'm a female and I really want to study Computer Science. I've heard males are more successful. Should I be discouraged and switch to another subject?

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

Answer written · Technology · Apr 3

What are some great engineering marvels?

Joan Figuerola, Co-founder at SpecifiedBy (2013-present)
Updated Apr 21

It's very easy to over-engineer a product but it's very difficult to engineer a product in its minimal complexity.
Boyan Slat (born in

https://www.quora.com/Where-can-I-find-a-comprehensive-list-of-EXPTIME-complete-problems

1/2


Ask or Search Quora

Ask Question

Read

Answer

Notifications

 Hengfeng