CSCI 338: Quiz 7

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Problem 1

On Apr 09 and 12, we covered some problems in NP. On Apr 14-16, we covered some NP-complete problems.

In your own language, what is the difference between NP and NP-complete?

Response

NP and NP-complete are very closely related. In fact, all NP-complete problems fall in the set of the NP class. This means that the solution to NP-complete problems can be verified in NP, but it is at least as difficult NP-hard. One of the identifying characteristics of NP-complete is such that individual complexity is related to that of the entire class. If an algorithm has polynomial time complexity for such a problem in NP, then NP would be solvable in P time (i.e. NP-complete).

An NP-complete problem is a problem such that it may be reduced to another problem in NP. This is how/why NP-complete problems are shared in both NP and NP-hard.