CSCI 338: Quiz 6

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Monday, April 12

Problem 1

On Apr 09 and Apr 12, we covered some problems in NP.

In your own language, what is the difference between a problem in P and a problem in NP?

Response

To understand the difference between problems in P and problems in NP, we need to know what polynomial time is. Polynomial time is the time complexity of an algorithm that takes $n^{O(1)}$. P refers to the set of problems that are solvable in polynomial time. The class of P problems generally represents the set of problems that are realistically solvable on a computer. The class of NP problems differ from the class of P problems in that, decision problems in the NP class are solvable in non-deterministic polynomial time. Problems in the P class may use a single-tape Turning machine, while problems in the NP class use a Nondeterministic Turning machine to solve in polynomial time.