

Due Nov 14, 15, 16

COURSE WEBSITE: "<http://www.cs.umd.edu/gasarch/652/652.html>"

1. (80 points) Find a natural problem that is computable but you can prove is NOT in P (use the paper on the website [regexp.pdf](#). I will take the problem in that paper, which has to do with reg expressions, as 'natural') Prove that it is NOT in P.
2. (20 points)
 - (a) Find a problem with Games that is provably NOT in P.
 - (b) Find a problem in Logic that is provably NOT in P.

In both cases you will need to be able to STATE the problem clearly and give some (very brief) reason why it is known to not be in P. In both cases feel free to use google, the library (for those older folks who know what that is), and asking someone who might know (but not me who knows but is not telling).