CMSC 652 HW 9-WRITTEN Due Apr 24 REALLY DUE

(You have LOTS of time to do this, so NOT moral deadline, this IS the deadline. THINK Of it as due morally on Apr 22.)

Writen

1. (20 points) Show that if $A \in R$ then there exists a polynomial p and a set $B \in P$ such that

$$\begin{array}{ll} x \in A & \rightarrow Prob_{|r|=p(n)}(B(x,r)) \geq 1 - \frac{1}{2^{|x|}} \\ x \notin A & \rightarrow Prob_{|r|=p(n)}(\neg B(x,r)) = 1 \end{array}$$

   (Think of r as being a random string.)

2. (20 points) Show that if $A \leq_r B$ and $B \in R$ then $A \in R$.

3. (10 points) Let SAT_1 be the set of formulas that have EXACTLY one satisfying assignment. Show that if $SAT_1 \in P$ then $P = NP$.

Oral HW FOR HW8:

APRIL 17. Tell me what Mohammd told you.

Oral HW FOR HW9:

Tell me the proof that IP=PSPACE. APRIL 24.

SCHEDULE FOR BOTH

USUAL GROUPS:

Th 10-11: (EMILY GROUP) Jesse M, Emily H, Yi Q,

Th 11-12: (LEO GROUP) Casey M, Leo F, Hoseein E.

Th 3:30-4:30 (ILSE GROUP) Bahadir O, Ahmed A, Ilse H

If you cannot meet at this time then email me ASAP.