Homework 5

Due at the beginning of class on Dec. 12

1. Arora-Barak, Exercise 11.2. (This result was mentioned in class, but without a rigorous proof.)


3. Arora-Barak, Exercise 11.11.

4. Give an example of a Karp reduction to an $\mathcal{NP}$-complete problem that is not parsimonious.

5. Prove formally that the problem of computing the permanent of positive integer matrices is in $\mathbb{NP}$. (In the lecture notes I gave some initial hints, but they need to be fleshed out to give a complete proof.)