1. According to Piazza post [@1180](https://piazza.com/class/jzqwd6s59yh6bm?cid=1180), this means we have to prove , there existsa weighted vertex cover problem whose linear programming solution , where is the optimal (minimum) weight. We can break this problem down into 2 cases:

This means . We proved in lecture that the rounded version of the linear programming answer (where is a vector of ’s and ’s) is . ’s is a vector of real numbers between and .