

SESSION 4: DISCUSSION POINTS

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In this discussion session we will review some background on selected topics and discuss the exercises below. The topics to be discussed include:

1. A more detailed treatment of the translation from circuits to linear programs;
2. matching in the bipartite case, why it's easy to see it's in FPC;
3. separation oracles and the representations of polytopes;
4. more on computing Min-Cut and Max-Flow in FPC; and
5. how we get *exponential* lower bounds for Hamiltonian cycle.

Exercises

1. On slide 5, why is minimizing over the convex hull of P equivalent to minimizing over P ? Why does the convex hull have exponentially many facets?
2. Prove or give a counter-example: A convex polytope always has at least as many facets as any of its projections.