Things that you should know for Midterm 2

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1. Duality
    - The dual problem
    - Weak and strong duality properties
    - Complementary basic solutions and the relationship between optimality and feasibility for each
2. Sensitivity analysis
    - Using fundamental insight and Gaussian elimination to get to a basic solution in the new problem.
    - Checking if the basic solution is feasible and optimal in the new problem
    - Checking the allowable range for various parameters
    - Reoptimization
3. Transportation simplex algorithm
    - The Northwest corner rule to find an initial BFS
    - Given a BFS, solving for u_i and v_j
    - Optimality condition
    - Finding the entering and leaving basic variable
4. Assignment Problem
    - The Hungarian algorithm