Revision

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What we have learned

- Convex Sets, Theorems of Separating and supporting hyperplanes, Theorems of alternative.
- Convex functions, perspective, conjugates, and quasiconvex functions.
- Def of convex opt. standard convex problem, how to transform a problem.
- Lagrangian dual, KKT, sensitivity analysis, theorem of alternatives.
- Methods for unconstrained opt problems. Generic descent, gradient descent, steepest descent, Newton method. Self-concordance functions.
- Methods for equality constrained opt. Newton method, infeasible Newton method.
- Methods for equality constrained opt. Logarithmic barrier and central path, barrier method.

How to prepare for exam

- go through the lecture notes/ text book.
- do all the questions in tutorials and assignments.
- do more questions in the textbook.

How to learn more and do research

- read classic books and quality research papers.
- choose an optimization problem, and study how to solve it.