Abstract: Since every equation $A = B$ can be equivalently expressed as two inequalities $A \leq B$ and $B \leq A$, solving inequalities can be considered a generalization of solving equations. In this talk, beginning with a very simple algorithm, we develop a general theory on solving linear inequalities. Then we will discuss applications of this theory in different areas of mathematics, including polyhedral theory, linear programming, and combinatorics.

All undergrads and first year grads invited.
Refreshments will be provided.