Intro to Zoom Lecture

Math 482, Lecture 20.5

Misha Lavrov

March 23, 2020

Plans for the online future

- Homework due Friday to:

  `uiuc.math482@gmail.com`

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- Today: a bit of review of Fourier–Motzkin elimination, to get you acquainted with the online setting.

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- Today: a bit of review of Fourier–Motzkin elimination, to get you acquainted with the online setting.

(Questions?)

Fourier–Motzkin elimination

Goal: We want to eliminate y from inequalities (a)–(e).

Step 1: Scale all inequalities so that the coefficient of y is -1, 0, or 1 in each.

$$\begin{array}{ll} (a) & -x + y \leq 3 \\ (b) & -x - 2y \leq -4 \\ (c) & x + y \leq 7 \qquad \rightsquigarrow \\ (d) & -x \leq 0 \\ (e) & -y \leq 0 \end{array}$$

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Fourier–Motzkin elimination

Goal: We want to eliminate y from inequalities (a)–(e).

Step 2: Combine all $+y$ inequalities with all $-y$ inequalities.

$$\begin{array}{ll} (a) & -x + y \leq 3 \\ \frac{1}{2}(b) & -\frac{1}{2}x - y \leq -2 \\ (c) & x + y \leq 7 \\ (d) & -x \leq 0 \\ (e) & -y \leq 0 \end{array} \quad \rightsquigarrow$$

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