

M-5710. Assignment 4

Due Monday, September 22

Part 1. Min-max problem

- Compute

$$I_{xy} = \min_x \max_y \left(\text{sign} \left(\frac{1}{xy} \right) \right)$$

and

$$I_{yx} = \max_y \min_x \left(\text{sign} \left(\frac{1}{xy} \right) \right)$$

and compare them.

- Compute

$$I_{xy}^S = \min_x \max_y (\text{sign}(xy))$$

and

$$I_{yx}^S = \max_y \min_x (\text{sign}(xy))$$

and compare them.

- Comment on the difference between these two cases.
- Find another example of a function $f(x, y)$ for which minimax is not equal to maximin.

Part 2. Strang: 2.2.3, 2.2.4, 2.2.13 (Used notations are introduced in Section 2.2)