

## Algorithms and Uncertainty

Winter Term 2025/26

Tutorial Session - Week 12

**Exercise 1:**

In the lecture, we used that  $\mathbf{E} \left[ \min_i \sum_{t=1}^T \ell_i^{(t)} \right] \leq \min_i \mathbf{E} \left[ \sum_{t=1}^T \ell_i^{(t)} \right]$  or  $\mathbf{E} \left[ \max_i \sum_{t=1}^T r_i^{(t)} \right] \geq \max_i \mathbf{E} \left[ \sum_{t=1}^T r_i^{(t)} \right]$  respectively. Give a proof of those inequalities.