Homework #4

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Deadline: Thursday, 28 November 2024, 19:00

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Exercise 1 (10 points)

We saw in class that there is no resolute voting rule for $n, m = 2, 2$ that is both anonymous and neutral. Suppose you don't remember the proof.

Find a proof for this fact using the SAT approach:

- Encode anonymity and neutrality in CNF.
- Verify that the CNF is unsatisfiable and extract an MUS.
- Interpret the MUS to obtain a human-readable proof.

Then check what happens for the following three cases:

- $n, m = 2, 3$
- $n, m = 3, 2$
- $n, m = 3, 3$

How many rules do you find (if any)? Is this what you expected?