COSC 290 Discrete Structures

Lecture 21: Peer Review of Proofs

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Plan for today

1. Exercise: peer review of proofs

Exercise: peer review of proofs

Exercise

Review the three proofs on handout, using the following criteria:

- **Validity**: Is the proof correct? Is it missing any step? Is it making unrealistic assumptions? Is a statement true but not well supported?
- **Readability**: Is one proof easier to read than another? If you find one easy (or difficult) to read, what specifically makes it easy (or difficult)?
- **Fluency**: Are terms/concepts being used appropriately?

I chose these examples because each one does something well, but has aspects that could be done better. For each proof, please try to identify at least one thing that it does well as well as at least one thing that could be improved.

Have one representative from each group be prepared to share group's conclusions.

Proofs

Here is a link to a correct, but rather terse, proof for the inductive case.

`https://hackmd.io/s/SJv4UTUab`

Some take aways

Tips for writing proofs:

- Be clear about *what* you are assuming and *when* you are assuming it
- Distinguish what you *want to show* from what you *have already shown*
- To prove $LHS = RHS$ start with LHS and transform into RHS. Please avoid changing both the LHS and the RHS and meeting "in the middle" (see p. 459 of textbook).
- Each equation should have an explanation.
- With each update to an equation, only make one *type* of change.
- Use LaTeX formatting features, like `align` (ex. on lab 4)