

# The report and what goes into it -some remarks and observations

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# Overall strategy and approach

- If the presentations at the tournament are like presentations at a conference then the report is like a **research paper** whose results you will present at a conference
  - It has the benefit of writing it up in a prose with **complete sentences** rather than just presentation points
    - can help you clarify things for yourself
  - The strategy and approach should show clearly in the **introduction**
    - background**: think broadly, what are the issues and phenomena; sometimes historical (centuries), why did people invent it, what did they learn from it but **always recent**
      - **references**—to have them at all and cite them in the text, esp. the intro also in the presentation
- The tournament problems are formulated broadly
- ⇒ you need to formulate **your own** specific problem, why is it interesting
- Another way to think about it: A **story** to tell

# The bulk of the report: theory, experiment

## Theory

- First the **basic** concepts and notions, qualitative mechanism, how does it work
- If possible **quantitative**: equations to get something from them, not just for their own sake
- **Assumptions** you are making
- If possible derive some quantitative result you can **compare** to experiment
- Theory should be a **guide**—interesting dependence or something easily checked

## Experiment

- A **preliminary** experiment could be useful
- Careful experiment, to check theory prediction; also be **open** to the unexpected
- What is the measurement **error**, give the data with the corresponding precision

# Discussion at the end

- Closure of story, punchline
- Did it show what we expected?
- Did we find something unexpected?
- Were our assumptions correct?
- Where does it lead us, what does it tell us about the bigger picture?