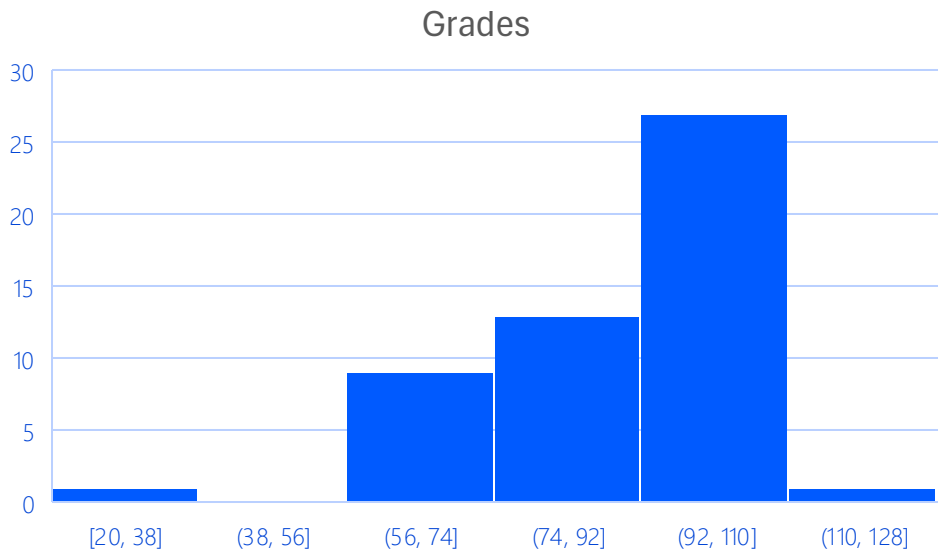
Assignment 1

Grades



Part 1

The abstract in a research paper, in order to be perfect, should have some main components.

1) Subject: the topic;
2) Question: by impersonating the reader, we think which question we want to have answered once finished writing;
3) Answer: write down the answer about the question;
4) Identification of the situation: prove that the statement of the question and answer is clear. By starting from the subject and moving up to the situation, we make a non-controversial statement;
5) Complication: determine if what said makes sense and understand if there are some logical discrepancy. We determine if the answer and the question are matching;
6) Re-check the question and the answer: the statement of the complication should raise the question already written down. If not, we rewrite the question in a way that do not leads to doubt, or eventually the complication or the question are wrong.

Handout

1 Introduction

Writing isn't some pointless fluff you do at the end of a research project - it's half the battle. Actually, it's more than half. Bad writing will bury even the best ideas. Here's how it works:

- **Good ideas + garbage writing** = Rejection. Straight in the bin.
- **Mediocre ideas + solid writing** = Acceptance. Welcome to the club.
- **Brilliant ideas + great writing** = Not just acceptance, but a lot of citations. People actually read it!

Do yourself a favor and spend at least 50% of your research time making sure your paper doesn't read like a toddler's diary.

Handout

3 Writing Your Paper: A Step-by-Step Guide

Before You Start Writing. Read Chapter 3 of *The Pyramid Principle*. .

Fixing Dodgy Sentences. If your sentences make no sense:

1. Read The Science of Scientific Writing;
2. Check Chapter 10 of *The Pyramid Principle*. If you can't visualize what you're writing, neither can your reader. Draw it first, then write.

Handout

Structuring Your Paper. The typical structure include:

1. **Abstract & Introduction** There's one structure that actually works. Follow it. It's basically what reviewers use to judge your paper:

   SITUATION: Problem X is very important because ...
   COMPLICATION: In tackling problem X, related work failed in doing Y
   PROPOSAL: To partly tackle Y, we make N contributions [list of contributions]

   Golden rule: Before writing any abstract (and intro), you need to know what X, Y, and N are. More than one X or Y? You don't know what you are writing about. Too vague? Nobody cares.

2. **Related Work**
   - Don't review everything under the sun. Focus only on Problem Y.
   - Keep it to one page. If it drags on, you're overcompensating.
   - End with this line: *"To sum up, previous work has failed to address Y."* Boom.
   - Can't pinpoint a clear Y? **Rewrite your Abstract/Intro/Related Work.**
3. **Methods.** Here you explain how you've solved the problem.
4. **Evaluation.** Here you explain how you've tested that your solution actually works.
5. **Discussion.** Here you discuss how your results are: (1) in-line with previous work; and (2) differ (expand) on previous work. Also, you can list the limitations of your work.

Final Draft Check. Before "embarrassing" yourself, run through *How to Read an Engineering Research Paper*: PDF link.

How Long Should This Thing Be?

- CS papers: about 12 pages. More? You better have a good reason.
- A survey paper? Fine, stretch it out a bit.

Additional Resources. Here are two amazing resources:

- *How to Write a Great Research Paper*: Microsoft link.
- **Video Lecture of the previous slides**: Watch on YouTube.

Final Thought: If your writing is unclear, people will assume your research is bad. Fix it.