

# Writing

October 3, 2006

# Outline

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- Style

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- Style
- LaTeX

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- LaTeX
- Publishing

Style

# The hard part...

...is to write in such a way that the reader feels that, behind the text, there is a friendly person trying to communicate.

# The basic question

Why should I read this?



# To Entice the Reader

- Explain what is new
- Relate your work to previous work
- Relate your work to other areas
- State your main results clearly

# Layout

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- Abstract

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- Introduction

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- Proofs

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- Abstract
- Introduction
- Proofs
- Conclusions, questions, prospects...

Layout, ctd.

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- The layout should make it easy to spot the key results



# Layout, ctd.

- The layout should make it easy to spot the key results
- This applies to both the overall structure, and to the individual sections

# Language

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- Some formality is required...
- ...but still try to write naturally
- Use as little notation as possible
- What notation you use should be standard

# It will help if:

- you do not write down **everything** you know, and
- you do not put everything in its most general form

# Actual Writing

- You need outlines.
- Rewrite! Often.



LaTeX

# Input, output

Now

$$\begin{aligned} (F_i)_{r,s} &= \frac{1}{n} \frac{W_{r,u}}{W_{r,i}} \frac{W_{s,i}}{W_{s,u}} \\ &= \frac{1}{n} \frac{W_{r,u}}{W_{s,u}} \frac{W_{s,i}}{W_{r,i}} \end{aligned}$$

\]

and therefore,

$$M_{r,s} = \frac{1}{n} \frac{W_{r,u}}{W_{s,u}} \sum_i (\Theta(M))_{u,i} \frac{W_{s,i}}{W_{r,i}}.$$

\]

Hence

$$nM_{r,s}(Y'_{s,r})_u = (\Theta(M)Y'_{s,r})_u,$$

\]

which implies the theorem.

Now

$$(F_i)_{r,s} = \frac{1}{n} \frac{W_{r,u}}{W_{r,i}} \frac{W_{s,i}}{W_{s,u}} = \frac{1}{n} \frac{W_{r,u}}{W_{s,u}} \frac{W_{s,i}}{W_{r,i}}$$

and therefore,

$$M_{r,s} = \frac{1}{n} \frac{W_{r,u}}{W_{s,u}} \sum_i (\Theta(M))_{u,i} \frac{W_{s,i}}{W_{r,i}}.$$

Hence

$$nM_{r,s}(Y'_{s,r})_u = (\Theta(M)Y'_{s,r})_u,$$

which implies the theorem.

# Why?

It's the only tool in town!

# On What?

- unix/linux
- windows
- macs

Good news, bad news

# Good news, bad news

- It's free,

# Good news, bad news

- It's free,
- but it's not easy

# Distributions

- unix: use emacs as editor (there's a web page that tells you how to get out of vi).
- windows: MiKTeX & WinEdt
- macs: TeXShop



# Working with LaTeX

- LaTeX takes the file you have produced with your editor; this normally instructs it to load certain packages and perhaps a file of macros that you have written.
- Your file specifies a document class (e.g., article, letter, beamer, book) and this determines the basic format. The packages provide modifications to the basic format.

# Packages

- There are lots of them
- Do not use a package unless you know what it does, and you need the behaviour it offers in the paper you are writing

Don't fight it

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- LaTeX gets essentially all details of formatting right

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- LaTeX gets essentially all details of formatting right
- Really!

# Figures

- on windows and macs, use a drawing package to get a ps or pdf file
- on unix, the best solution is to have your co-author prepare them;
- s/he will use xfig (be grateful)

# Publishing

# Math ArXiv

- When you have a version of your paper that you are ready to submit, post it on the Math ArXiv



# Submission

- Some journals permit or encourage electronic submission. For details, go to their web page and follow their instructions carefully.
- Some journals do not. If you submit by snail mail, **include a covering letter!** This should state that you are submitting the enclosed paper for publication, and in which journal.

# The response

- You should get a quick acknowledgment of your submission. If you do not, then get in touch at once.
- It could take up to a year for your paper to be refereed. If you have heard nothing from the journal after six months, it is reasonable to contact the journal and ask how things are going.
- Once you have submitted a paper, you **must not** submit it to a second journal until it is rejected, or you have written to the journal and formally withdrawn it.

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- Where has related work appeared?
- What does your supervisor say?
- Do not ask an editor!
- Choose a strong journal

On rejection :- (



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- You'll gain nothing by arguing with the editor - referee's are harder to find than papers

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- Congratulations!
- Usually the referees will have noted minor problems, and the editors will ask you to fix them and then resubmit.
- Sometimes a referee's comment may be wrong. You may choose to ignore it, but when you resubmit you should explain clearly where you have not followed the advice offered, and why.



# Almost Done

- I have some notes on writing on my web page, under 'advice'
- There's some information about TeX there, too