Ron Shamir
October 26, 2001

Preparing your scribe

1 General Instructions

Thank you for volunteering to write up notes on today's lecture. If you scribe on a Thursday we ask that you please bring your notes by the following Thursday. At this phase bring *printed* notes, do not send us files. That version will be marked for corrections by us and you should correct the files accordingly and have a final version ready by the following Thursday morning, so that it can be distributed to the class within two weeks from the original lecture.

To help you with your notes, we can let you xerox the notes used in giving the lecture, and notes on the same subject in past courses. Please ask for help in understanding the material or if you have a question about how it should be presented.

In order to make the notes more uniform and easier to read, we are providing several macros for theorems and such. Also, we ask that you follow a few stylistic conventions:

Please write your notes as if you were explaining the material to another student, rather than as minutes of a meeting. That is, don't write things like "Today we started discussing..." or "next time, we will..." or "then, someone asked the question...". Just explain the material as clearly as you can.

If you need to refer to an earlier lecture, use the lecture number. For example, "In Lecture 6 it was shown that...". To refer to a later lecture for which you don't know the number, just say something like, "This impossibility result will be discussed further in a later lecture." (At the end of the course, I will go back and fill in the appropriate lecture numbers.)

If material from a handout is covered in lecture, then we would like to include the text of the handout as part of the notes to make them more self-contained. To make your job easier, we will email you the latex files for the relevant handouts, and you can merge them in at the appropriate places. Also, you may want to annotate the handout as you see fit. Some handouts and transparencies presented in class are pictures which cannot be latex-ed, and in that case they should be scanned in order to be added to the the lecture notes. Contact us regarding usage of a scanner.

Your grade on the scribe will be based primarily on the **first** draft that you hand in. Subsequent changes will have only a secondary effect on the grade. Therefore, hand in what you consider *your final version*, and not a draft you expect us to clean up for you.

2 Getting Started

1. If you are unfamiliar with LaTeX, check the web page at

   `http://www.math.tau.ac.il/~rshamir/atga/help.html`

2. To get started please create a sub-directory called `algmb` in your home directory, and copy there all files in ∼`rshamir/pub/algmb/`∗. Also form links to the files in ∼`rshamir/pub/algmb/bib/`.

3. In your algmb directory you'll now find the file `Makefile.pl`. Executing the command `perl Makefile.pl` will create a Makefile which you can use to compile your LaTeX source. `make lec##.dvi` will run LaTeX once to make your `.dvi` file, while `make final` runs also BibTeX, and then runs LaTeX again twice, which is needed to get your bibliographies right.

4. The name of your tex file should be `lec##.tex`. You'll get by email last year's scribe of the current lesson. Modify it as necessary.

3 Labels

All the labels you create in your tex file should be in the following format:

`\label{lec##:<type>:<name>}`

where type is theorem, lemma, corollary, claim, fig, etc.
For example, `\label{lec01:thorem:PerfectGraphTheorem}` or
`\label{lec01:fig:interval graph}`

4 Bibliography

For most algorithms, theorems and lemmas, you need to add a references to the papers they first appeared in. This should be done in the following way: Suppose you need a reference to the paper "Is P=NP ?" by Alice and Bob. First, check if it appears in the `.bib` files we supply (remember that you should have links to these files in your directory). If not, you need to create a file named `lec##.bib`, and there you create the following entry:

```
@Article{AliceBob99,
author = "A. Alice and B. Bob",
title =  "Is {P=NP} ?",
journal = "SIAM J. Computing",
year = "1999",
volume = "1",
pages = "1--50",
}
```

(the curly brackets are needed to keep the capitalization of the expression inside). Note that you should create the label for the entry by concatenating the names of the authors and the two last digit of the year (in this case AliceBob99). Now, in your tex file, you can add reference to this paper using the `\cite` command:

```
\begin{theorem}
(Alice and Bob, 1999 \cite{AliceBob99})
$P \ne NP$.
\end{theorem}
```

(use the exact style as above for giving references in theorems)

Every time you add references to your scribe and want to create a .dvi file you should re-make the `final` version, to get your bibliographies right.

5 Figures

To create new figures (or change old ones) use the program "xfig" and then generate from it a .eepic file (to generate the eepic file once you are done with the picture, click on 'export' and then on the box next to 'language' and pick "eepic". Finally click "export" to generate the file.)

All figures should be located in a directory called `lec##_figs`. Suppose you want to add a picture of a tree. Then in the `lec##_figs` directory create an xfig file called `lec##_tree.fig` and the eepic file `lec##_tree.eepic`. To put the figure in your scribe use the command `\Fig` (this command is defined in the file scribelc.sty) as follows:

```
\Fig{lec#_figs/lec#_tree}{A tree}{lec#:fig:tree}
```

The first argument is the name of the .eepic file of your figure, the second argument is the caption for the figure, and the last argument is a label for your figure.

A similar command, `\psfig` can be used to incorporate postscript files into your document. Consult `scribe.sty` for it's syntax.

6 Before handing in your Scribe:

You will hand in your final scribe both in print and in files. Below is a summary of instructions for the files conventions.

1. I will need your final latex file and ALL other related files you are using or including to make latex run.

   If you have figures made by xfig (or any other picture drawing program) and turned into .ps or .eps files, I will want the the original files (say, .fig files for Xfig) **and** the final .(e)ps files, in order to be able to change the figures later.

   Do not change anything in style files. If you need to make definitions, put them in your latex file.

   Please note your changes, so that I'll be able to add them to the style files.

2. Make sure ALL of the files (scribe, figures original, ps files) start with the prefix `lec##_` where `##` is your two-digit lecture number.

3. Put your scribe in file `lec##.tex` in your directory `~/algmb/` and your figures in `~/algmb/lec##_figs/lec##_<name>.suf`
   where .suf is .ps or .fig or .eepic or .tex according to the type of the file.

4. Clear `~/algmb/` and `~/algmb/lec##_figs` from all other files.

5. Spell check your scribe! The Unix command for spell checking is 'ispell'.

6. Make sure all the files are readable (type '`chmod -R 755 ~/algmb`').

7. After all the above is done, run latex again on your file, to see that input file names are consistent with those inside the latex files and nothing is missing.

8. **READ your scribe**. Check that pages and lines do not beak in bad places. Check for typ-os etc.

9. Make sure the references appear at the end of the document, and that all citations inside the text are correctly expanded.

10. when handing in the first iteration of the scribe, please:

    (a) Use doublespace style.

    (b) Give me a printout of the scribe.

11. when handing in the final scribe, please:

    (a) Hand in a printout of the new version

    (b) Hand in also the previous (marked) iteration, with all my remarks either marked "check " (V, with a pen), or with a comment why you didn't correct them.

    (c) Send me (roded) e-mail with the tar-ed gzipped algmb directory attached.