Fedora and TEX Live

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Outline

1. Introduction
   - TEX
   - TEX Live
2. Install TEX Live
   - local version
   - sys version/ rpm
3. Use TEX Live
   - Tips
   - Get Help

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What is TEX?

- a typysetting system for beautiful books
- originally developed by Donald E. Knuth in 1978
- free to use, free to modify with naming exception
- TEX 3.1415926 as of March 2008, and till today

Why TEX (and why not)?

Pros

- allow focusing on the content without bothering the layout(including TOC, references, etc)
- excel in typesetting math formular

$$\mathcal{F}(\xi) = \int_{-\infty}^{\infty} f(x) \mathrm{e}^{-\mathrm{j}2\pi\xi x} \mathrm{d}x$$

- enhanced in many aspects
  - Chinese 華夏文明
  - slides (BEAMER)
  - music notes(♫), chess, etc

Cons

- not WYSIWYG
- not easy to be TEXpert
- only .doc permitted

Overview

TEX system

- Core: low-level macro language
- Formats: Plain TEX, LATEX, $\mathcal{AMS}$-TEX, ConTEXt
- Engines: tex, latex, pdf(la)tex, xe(la)tex, lua(la)tex
- Distros: TEX Live, MiKTEX, MacTEX

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What is TEX Live?

- a TEX distro: a comprehensive collection of TEX utils
  Schemes
  - Collections
    - Packages
- developed since 1996 by TeX user groups
- originally for Linux, now cross-platform
- can run live from a DVD (up to v2009)

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Methods

- ☹ download the huge DVD iso
- $$ be a member of TUG and get TEX Live on DVD
- ☺ net install

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网络安装

- 从 CTAN 镜像下载 install-tl-unx.tar.gz 和 install-tl-unx.tar.gz.sha256
  - http://mirrors.tuna.tsinghua.edu.cn/CTAN/systems/texlive/tlnet/
  - http://ftp.ctex.org/mirrors/CTAN/systems/texlive/tlnet/
  - More at http://mirror.ctan.org/README.mirrors
- 校验

```
$ LANG=C sha256sum --check install-tl-unx.tar.gz
    .sha256
install-tl-unx.tar.gz: OK
```

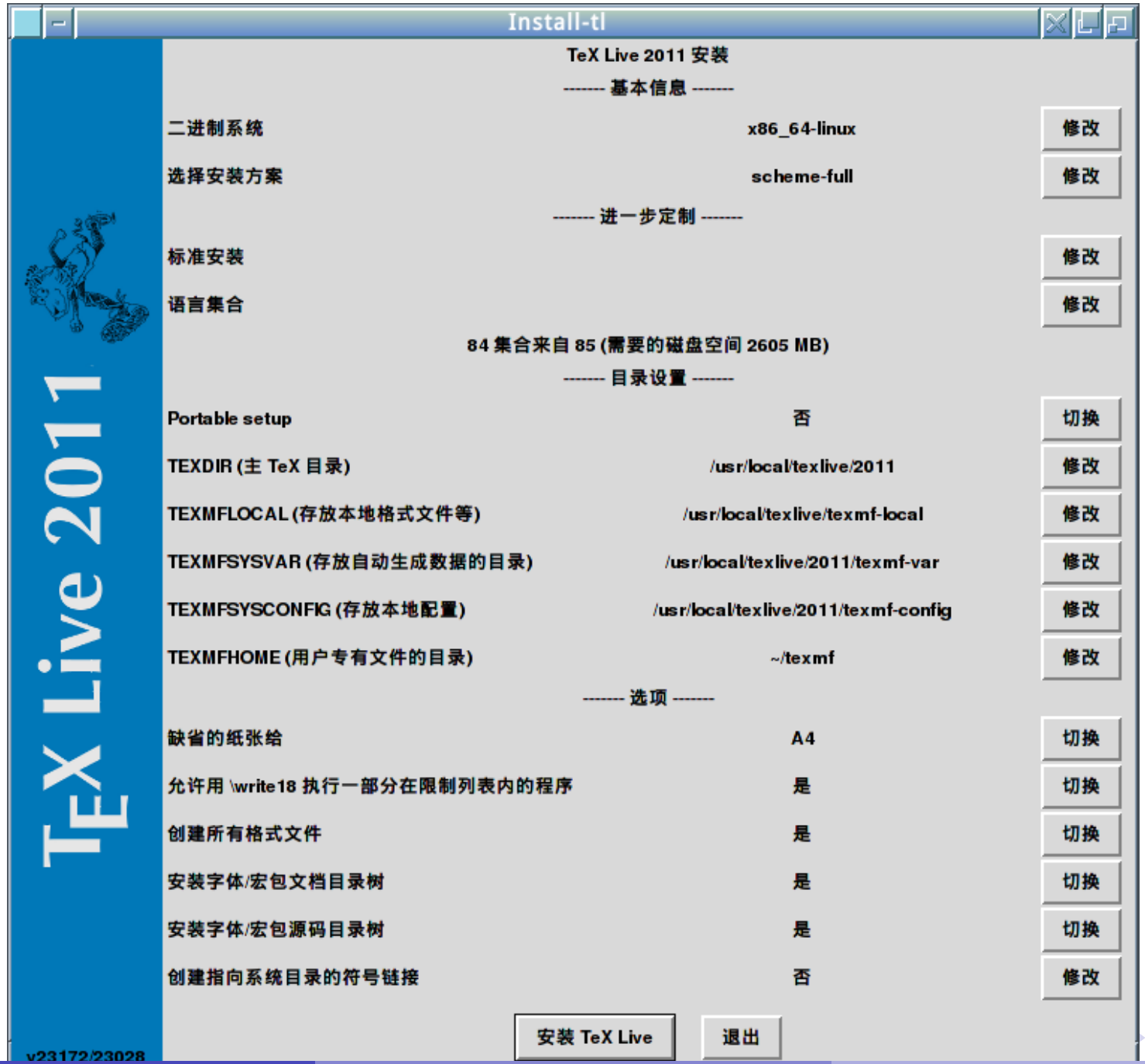
网络安装

- Install 安装

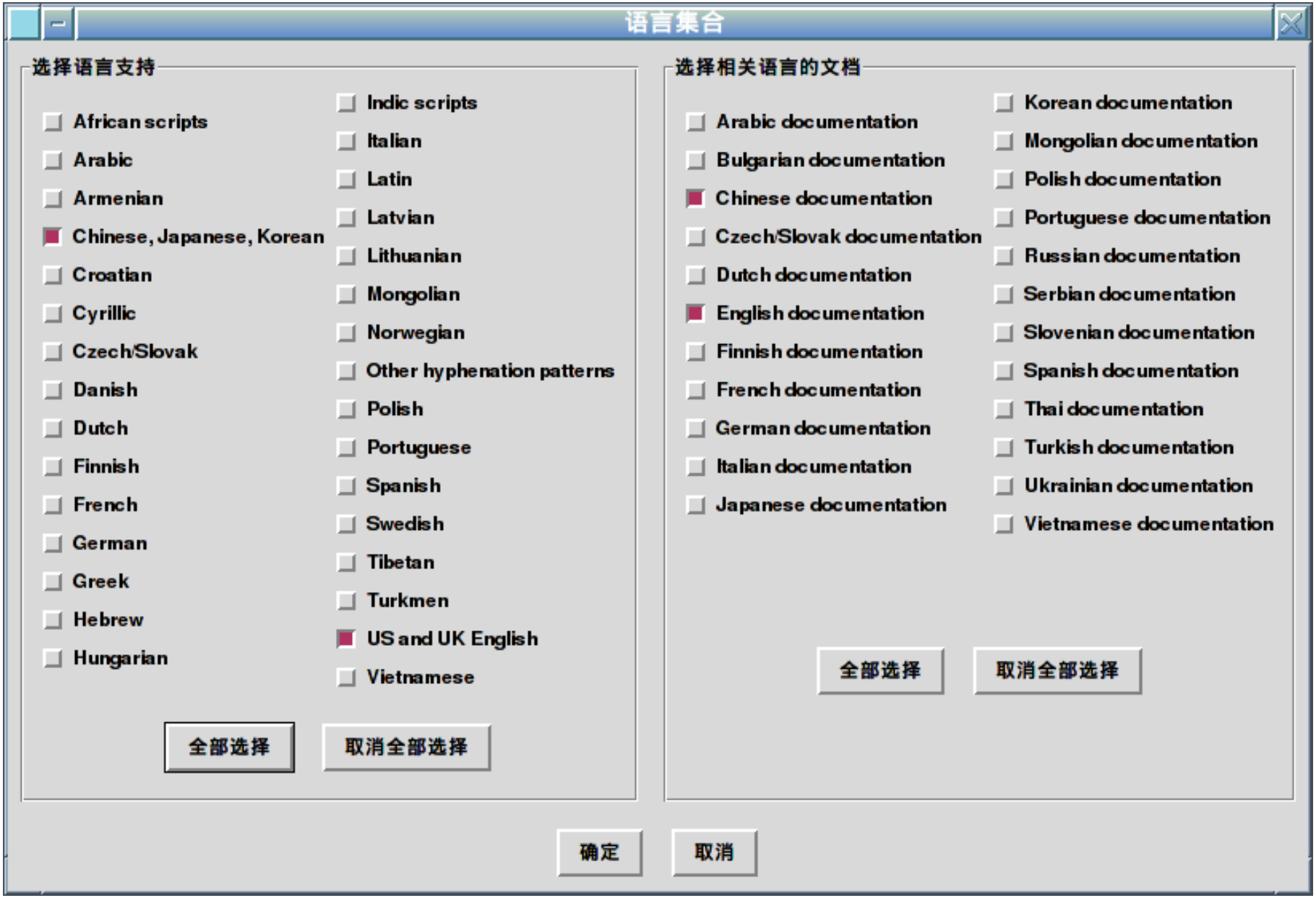
```
su -c'./install-tl -gui -repository http://
    mirrors.tuna.tsinghua.edu.cn/CTAN/systems/
    texlive/tlnet/'
```

  - 图形安装界面需要 Perl Tk 模块:`yum install perl-Tk`
  - root 使用 X 程序,可能还需要 `xhost +si:localuser:root`

- 截图...


Install-tl
TeX Live 2011 安装
------- 基本信息 -------
二进制系统 x86_64-linux 修改
选择安装方案 scheme-full 修改
------- 进一步定制 -------
标准安装 修改
语言集合 修改
84 集合来自 85 (需要的磁盘空间 2605 MB)
------- 目录设置 -------
Portable setup 否 切换
TEXDIR (主 TeX 目录) /usr/local/texlive/2011 修改
TEXMFLOCAL (存放本地格式文件等) /usr/local/texlive/texmf-local 修改
TEXMFSYSVAR (存放自动生成数据的目录) /usr/local/texlive/2011/texmf-var 修改
TEXMFSYSCONFIG (存放本地配置) /usr/local/texlive/2011/texmf-config 修改
TEXMFHOME (用户专有文件的目录) ~/texmf 修改
------- 选项 -------
缺省的纸张给 A4 切换
允许用 \write18 执行一部分在限制列表内的程序 是 切换
创建所有格式文件 是 切换
安装字体/宏包文档目录树 是 切换
安装字体/宏包源码目录树 是 切换
创建指向系统目录的符号链接 否 修改
安装 TeX Live
退出
TEX Live 2011
v23172/23028

标准安装
选择要安装的组件
Essential programs and files
Extra BibTeX styles
TeX auxiliary programs
ConTeXt format
TeX Live documentation
Extra fonts
Recommended fonts
TeX and Outline font utilities
Extra formats
Games typesetting
Extra generic packages
Recommended generic packages
HTML/SGML/XML support
Humanities packages
Basic LaTeX packages
LaTeX supplementary packages
LaTeX recommended packages
LuaTeX packages
Advanced math typesetting
MetaPost (and Metafont) drawing packages
Music typesetting
Omega
Graphics packages and programs
Plain TeX supplementary packages
PSTricks packages
Support for publishers, theses, standards, conferences, etc.
Typesetting for natural and computer sciences
GNU Texinfo
The TeXworks Editor
Windows support programs
XeTeX packages
全部选择
取消全部选择
确定
取消


语言集合
选择语言支持
African scripts
Arabic
Armenian
Chinese, Japanese, Korean
Croatian
Cyrillic
Czech/Slovak
Danish
Dutch
Finnish
French
German
Greek
Hebrew
Hungarian
Indic scripts
Italian
Latin
Latvian
Lithuanian
Mongolian
Norwegian
Other hyphenation patterns
Polish
Portuguese
Spanish
Swedish
Tibetan
Turkmen
US and UK English
Vietnamese
全部选择
取消全部选择
选择相关语言的文档
Arabic documentation
Bulgarian documentation
Chinese documentation
Czech/Slovak documentation
Dutch documentation
English documentation
Finnish documentation
French documentation
German documentation
Italian documentation
Japanese documentation
Korean documentation
Mongolian documentation
Polish documentation
Portuguese documentation
Russian documentation
Serbian documentation
Slovenian documentation
Spanish documentation
Thai documentation
Turkish documentation
Ukrainian documentation
Vietnamese documentation
全部选择
取消全部选择
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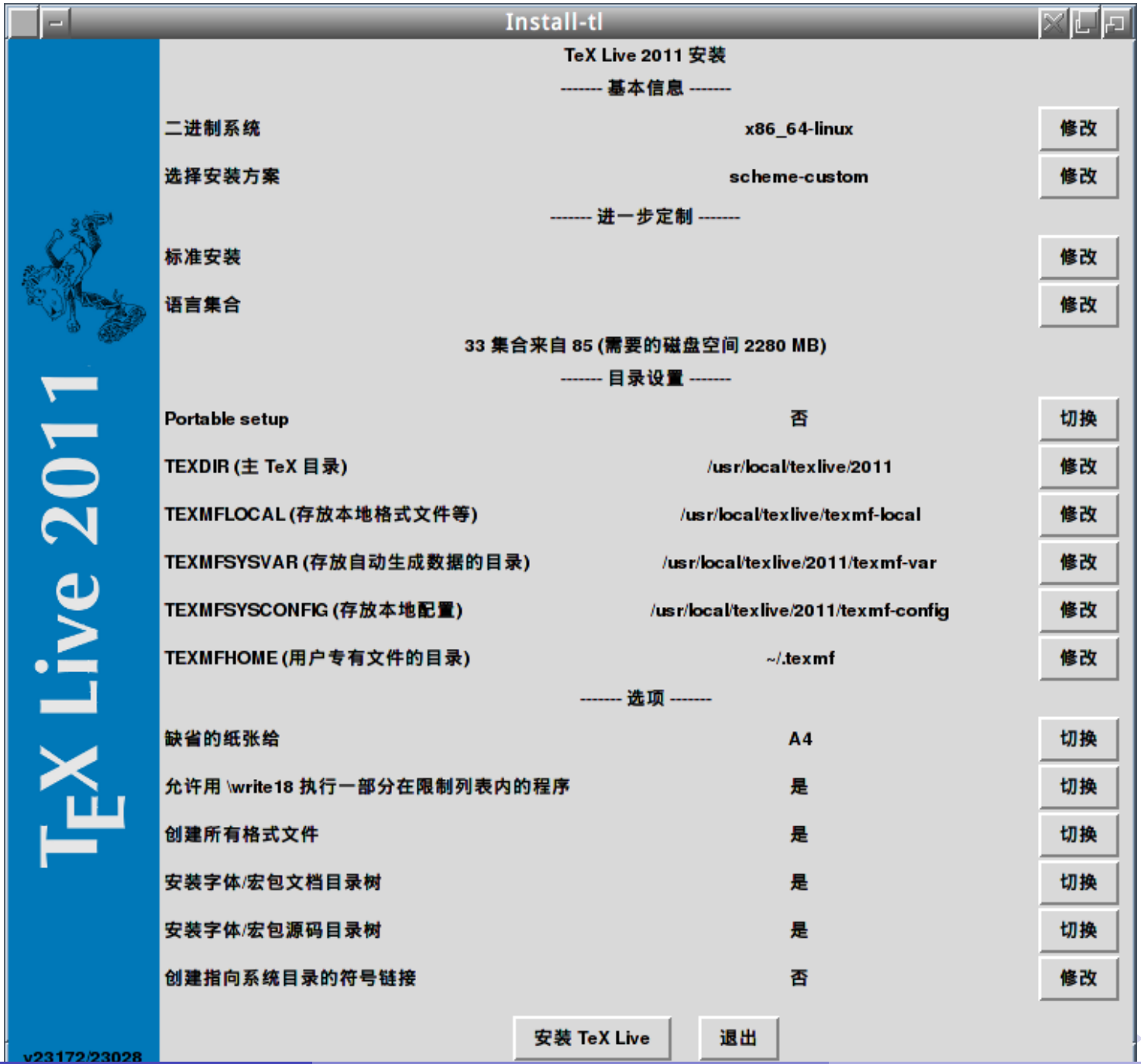
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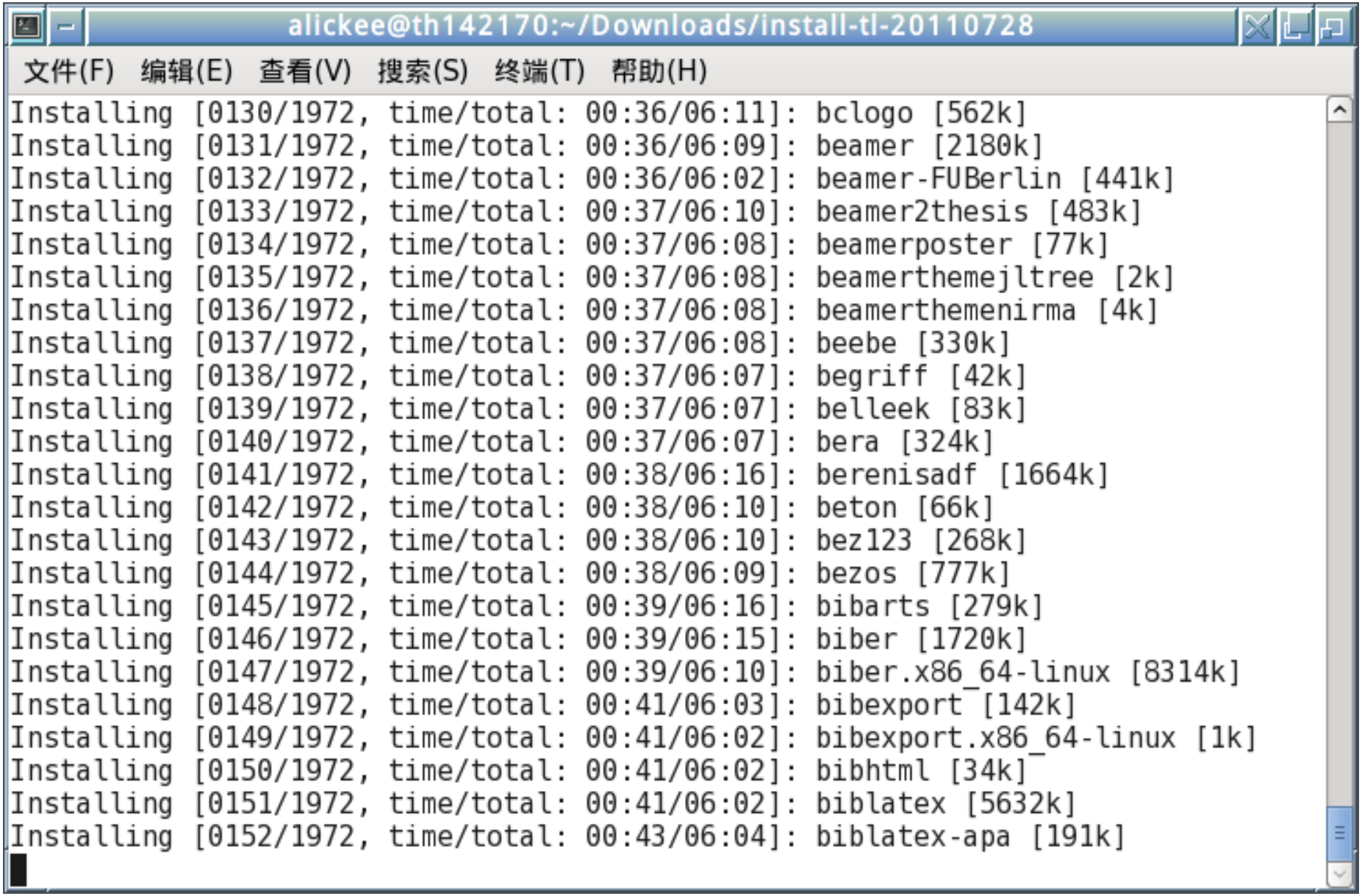
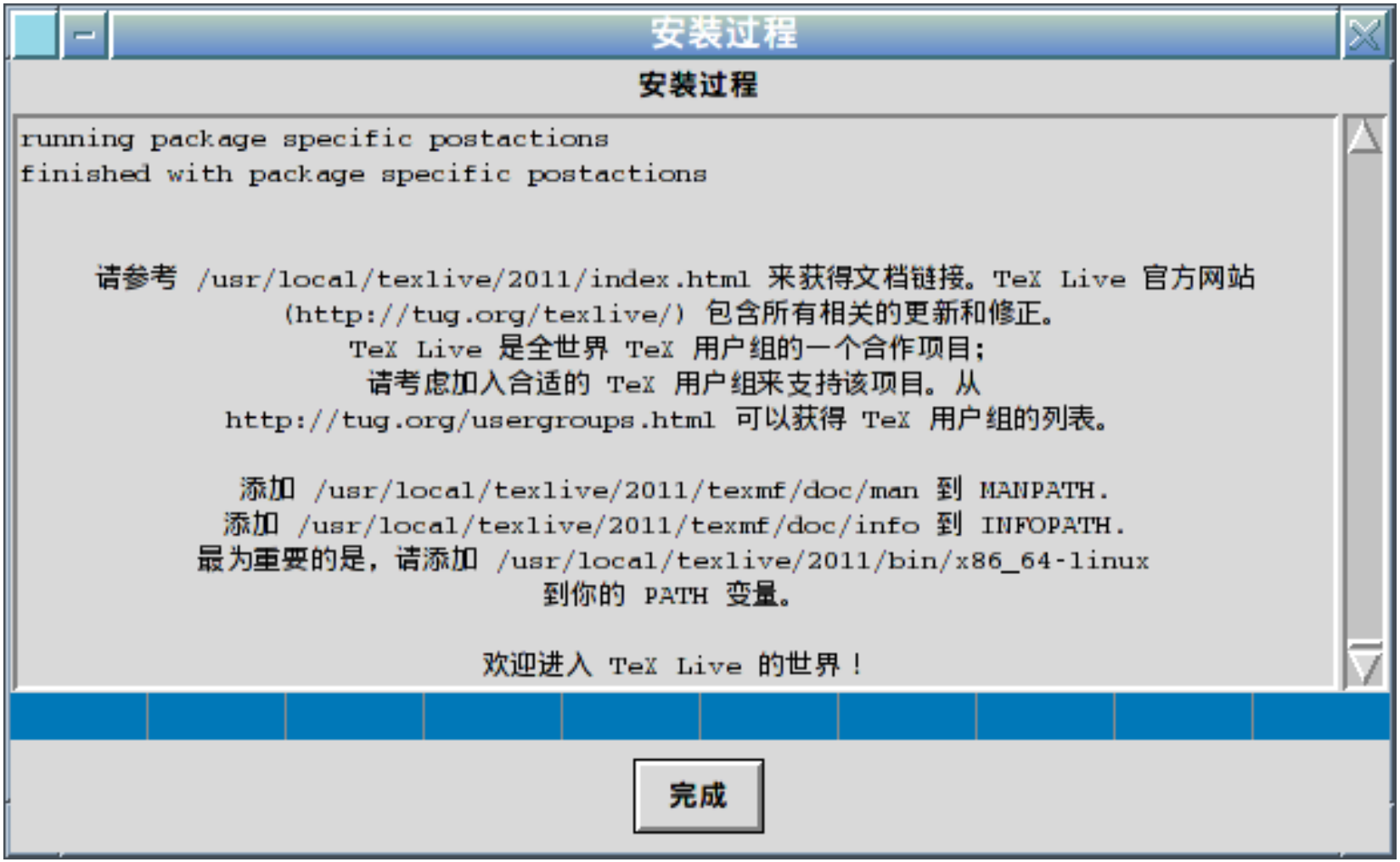

alickee@th142170:~/Downloads/install-tl-20110728
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
Installing [0130/1972, time/total: 00:36/06:11]: bclogo [562k]
Installing [0131/1972, time/total: 00:36/06:09]: beamer [2180k]
Installing [0132/1972, time/total: 00:36/06:02]: beamer-FUBerlin [441k]
Installing [0133/1972, time/total: 00:37/06:10]: beamer2thesis [483k]
Installing [0134/1972, time/total: 00:37/06:08]: beamerposter [77k]
Installing [0135/1972, time/total: 00:37/06:08]: beamerthemejltree [2k]
Installing [0136/1972, time/total: 00:37/06:08]: beamerthemenirma [4k]
Installing [0137/1972, time/total: 00:37/06:08]: beebe [330k]
Installing [0138/1972, time/total: 00:37/06:07]: begriff [42k]
Installing [0139/1972, time/total: 00:37/06:07]: belleek [83k]
Installing [0140/1972, time/total: 00:37/06:07]: bera [324k]
Installing [0141/1972, time/total: 00:38/06:16]: berenisadf [1664k]
Installing [0142/1972, time/total: 00:38/06:10]: beton [66k]
Installing [0143/1972, time/total: 00:38/06:10]: bez123 [268k]
Installing [0144/1972, time/total: 00:38/06:09]: bezos [777k]
Installing [0145/1972, time/total: 00:39/06:16]: bibarts [279k]
Installing [0146/1972, time/total: 00:39/06:15]: biber [1720k]
Installing [0147/1972, time/total: 00:39/06:10]: biber.x86_64-linux [8314k]
Installing [0148/1972, time/total: 00:41/06:03]: bibexport [142k]
Installing [0149/1972, time/total: 00:41/06:02]: bibexport.x86_64-linux [1k]
Installing [0150/1972, time/total: 00:41/06:02]: bibhtml [34k]
Installing [0151/1972, time/total: 00:41/06:02]: biblatex [5632k]
Installing [0152/1972, time/total: 00:43/06:04]: biblatex-apa [191k]


安装过程
安装过程
running package specific postactions
finished with package specific postactions
请参考 /usr/local/texlive/2011/index.html 来获得文档链接。TeX Live 官方网站
(http://tug.org/texlive/) 包含所有相关的更新和修正。
TeX Live 是全世界 TeX 用户组的一个合作项目；
请考虑加入合适的 TeX 用户组来支持该项目。从
http://tug.org/usergroups.html 可以获得 TeX 用户组的列表。
添加 /usr/local/texlive/2011/texmf/doc/man 到 MANPATH.
添加 /usr/local/texlive/2011/texmf/doc/info 到 INFOPATH.
最为重要的是，请添加 /usr/local/texlive/2011/bin/x86_64-linux
到你的 PATH 变量。
欢迎进入 TeX Live 的世界！
完成

网络安装后配置

- Add the following lines into your ~/.bash_profile:

```
export PATH=/usr/local/texlive/2011/bin/x86_64-
    linux:$PATH
export MANPATH=/usr/local/texlive/2011/texmf/doc
    /man:$MANPATH
export INFOPATH=/usr/local/texlive/2011/texmf/
    doc/info:$INFOPATH
```

- 打开 TEX Live 指南中文版 “texlive-zh-cn.pdf”,关注第 3.4 节

```
texdoc texlive-zh
```

网络安装后配置

- XƎTEX and fontconfig:

```
cp /usr/local/texlive/2011/texmf-var/fonts/conf/
   texlive-fontconfig.conf /etc/fonts/conf.d/09-
   texlive.conf
fc-cache -fsv
```

- ConTEXt Mark IV

```
context --generate
```

网络安装后测试

English Tests

Use installed sample files:

- `latex sample2e.tex # .tex` → .dvi (device independent)
  `xdvi sample2e.dvi # also try dvipdf sample2e.dvi`
- try `pdflatex sample2e` directly
- `xetex opentype-info.tex # test of xetex's OpenType support`

网络安装后测试

中文测试 “test-chinese.tex”

```
\documentclass{ctexart}
\setCJKmainfont{AR PL
    UMing CN}
\begin{document}
\TeX{}你好！
\end{document}
```

```
xelatex test-chinese
evince test-chinese.pdf
```

TEX你好！

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表格: 调查结果

版本	仓库	安装方式/发行版	体验
2011	CTAN	ISO(BT)	强大
2011	distro	Gentoo Portage	少许问题
2011	CTAN	net	Debian sid 刚用不久
2010,2011	?	?	Debian 很好
2010	CTAN	net	XP+Linux 挺好除了不能滚动升级
2007	distro	Fedora 15	xetex 挺好
2009	distro	Ubuntu 10.04	已有xecjk
2011	CTAN	net	不错
2009	distro	Ubuntu 11.04	xelatex

TeX Live in Linux distros

- Fedora offical repo: TeX Live 2007 — Not good.
- Ubuntu offical repo: TeX Live 2009 — Not good.
- jnovy's repo TeX Live 2010&2011 — Good news.
  `http://fedoraproject.org/wiki/Features/TeXLive`

安装步骤

```
rpm -i http://jnovy.fedorapeople.org/texlive/
    packages.f14/texlive-release.noarch.rpm
yum clean all
yum install texlive # basic scheme
OR yum install texlive-scheme-full # if disk space
    is enough

yum install texlive-collection-xetex texlive-ctex
yum install 'tex(savesym.sty)'
yum install 'tex(siunitx.sty)'

xelatex template-xetex.tex
```

Why rpm?

- single installation tool
- package dependency
- no old packages in TEX Live repo

- Volunteers needed

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General Tips

- focus on the content, not the layout
  - use well-defined classes/templates: ctexart, beamer, thuthesis
  - packages: siunitx, listings, xeCJK
  - structure: section, subsection, etc
  - meaning: emph, label
- `texcount -ch report.tex`: count words
- Project(input, include, Makefile, git)
- Which TeX Editor? (Vim, Emacs, LyX, TeX IDE...)

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Help Yourself

- tlmgr (Yum in Fedora version)
  - `tlmgr gui`
  - `man tlmgr`
- texdoc (may need yum install)
  - e.g. `texdoc xecjk`, `texdoc mathmode`, and `texdoc symbols`
  - `texdoctk` — GUI

TEX community

- BBS
  - smth TeX board
  - bbs.ctex.org
- Mailing list
  - TEX Live
  - Fedora TEX Live Packaging
- UK FAQ
- Google

Summary

- TEX Live makes typesetting easy.
- The installation of TEX Live is easy.
- Happy LATEXing!

- Outlook
  - *MakeIndex*, BIBTEX
  - METAPOST, Asymptote

- Get these materials from github
  - templates: `http://github.com/alick9188/TeXLab`
  - FAD slides: `http://github.com/alick9188/fad-texlive-talk`
- License: CC BY-SA 3.0 Unported

Thanks!

Questions?