

# books/Makefile

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## **Abstract**

This Makefile creates all the primary documentation for Axiom as pdf files in the final output tree.

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Note that we need to set the SHELL variable here because the default shell appears to be /bin/sh which does not follow the semantics of echo used by /bin/bash. Thus, while trying to write the backslash-newpage lines the backslash-n gets interpreted as a newline.

## 1 The Makefile

```

_____ * _____

SHELL=bash
PDF=${AXIOM}/doc
IN=${SPD}/books
LATEX=latex
MAKEINDEX=makeindex
DVIPDFM=dvipdfm
DVIPS=dvips -Ppdf
PS2PDF=ps2pdf
RM=rm -f

BOOKPDF=${PDF}/bookvol0.pdf    ${PDF}/bookvol1.pdf    ${PDF}/bookvol2.pdf \
    ${PDF}/bookvol3.pdf    ${PDF}/bookvol4.pdf    ${PDF}/bookvol5.pdf \
    ${PDF}/bookvol6.pdf    ${PDF}/bookvol7.pdf    ${PDF}/bookvol7.1.pdf \
    ${PDF}/bookvol8.pdf    ${PDF}/bookvol8.1.pdf    ${PDF}/bookvol9.pdf \
    ${PDF}/bookvol10.pdf    ${PDF}/bookvol10.1.pdf    ${PDF}/bookvol10.2.pdf \
    ${PDF}/bookvol10.3.pdf    ${PDF}/bookvol10.4.pdf    ${PDF}/bookvol10.5.pdf \
    ${PDF}/bookvol11.pdf    ${PDF}/bookvol12.pdf    ${PDF}/bookvol13.pdf \
    ${PDF}/bookvolbib.pdf

all: announce ${BOOKPDF} ${PDF}/toc.pdf
@ (cd ${PDF} ; ${RM} *.out *.toc *.sty *.def *.png)

announce:
@ echo =====
@ echo books BUILDING PDF FILES
@ echo =====

${PDF}/%.pdf: ${IN}/%.pamphlet
@echo b1 making ${PDF}/%.pdf from ${IN}/%.pamphlet
@ (cd ${PDF} ; \
    cp ${BOOKS}/axiom.sty ${PDF} ; \
    cp ${IN}/%.pamphlet ${PDF} ; \
    cp ${IN}/bookheader.tex ${PDF} ; \
    cp -pr ${IN}/ps ${PDF} ; \
    if [ -z "${NOISE}" ] ; then \
        ${RM} *.toc ; \
        ${LATEX} *.pamphlet ; \
        ${MAKEINDEX} *.idx 1>/dev/null 2>/dev/null ; \
        ${LATEX} *.pamphlet >/dev/null ; \
    fi

```

```

    ${DVIPDFM} $*.dvi 2>/dev/null ; \
    ${RM} $*.aux $*.dvi $*.log $*.ps $*.idx $*.tex $*.pamphlet ; \
    ${RM} $*.ilg $*.ind ; \
    ${RM} bookheader.tex ; \
else \
    ${RM} $*.toc ; \
    ${LATEX} $*.pamphlet >${TMP}/trace ; \
    ${MAKEINDEX} $*.idx 1>/dev/null 2>/dev/null ; \
    ${LATEX} $*.pamphlet >${TMP}/trace ; \
    ${DVIPDFM} $*.dvi 2>${TMP}/trace ; \
    ${RM} $*.aux $*.dvi $*.log $*.ps $*.idx $*.tex $*.pamphlet ; \
    ${RM} $*.ilg $*.ind ; \
    ${RM} bookheader.tex ; \
fi )

```

## 2 Combined Table of Contents

This is the table of contents from the existing volumes combined into one document for easy reference.

It turns out that the hyperref package adds junk on the end of the lines in the .toc files. We use these files to create the combined table of contents so we need to clean up after hyperref. These patterns remove the last braced item in the line. If a new one shows up you'll have to add the pattern here to remove it.

The cruft I've found so far has the forms:

- {chapter.1}
- {section.1.1}
- {subsection.1.1}
- {appendix.A}
- {section.A.1}
- {subsection.A.1}

The sed patterns to match and remove them (in order) are:

— sed pattern —

```

sed -e 's/{chapter.[0-9]*}//' \
    -e 's/{chapter\*[1-9]}//' \
    -e 's/{chapter\*.13}//' \
    -e 's/{section.[0-9]*.[0-9]*}//' \
    -e 's/{subsection.[0-9]*.[0-9]*.[0-9]*}//' \
    -e 's/{appendix.*}//' \
    -e 's/{section.[A-Z]*.[0-9]*}//' \
    -e 's/{subsection.[A-Z]*.[0-9]*.[0-9]*}//' \

```

```

-----
-- * --

${PDF}/toc.pdf: ${BOOKPDF}
@echo b3 making ${PDF}/toc.pdf
@cd ${PDF} ; \
echo "\\documentclass{book}" >toc.tex ; \
echo "\\setlength{\\textwidth}{400pt}" >>toc.tex ; \
echo "\\usepackage{amssymb}" >>toc.tex ; \
echo "\\begin{document}" >>toc.tex ; \
echo "{\\bf Volume ~ 0}: Axiom {\\sl Jenks and Sutor}\\\\" >toc.toc ; \
echo "{\\bf Volume ~ 1}: Axiom {\\sl Tutorial}\\\\" >>toc.toc ; \
echo "{\\bf Volume ~ 2}: Axiom {\\sl Users Guide}\\\\" >>toc.toc ; \
echo \
    "{\\bf Volume ~ 3}: Axiom {\\sl Programmers Guide}\\\\" >>toc.toc ; \
echo \
    "{\\bf Volume ~ 4}: Axiom {\\sl Developers Guide}\\\\" >>toc.toc ; \
echo "{\\bf Volume ~ 5}: Axiom {\\sl Interpreter}\\\\" >>toc.toc ; \
echo "{\\bf Volume ~ 6}: Axiom {\\sl Command}\\\\" >>toc.toc ; \
echo "{\\bf Volume ~ 7}: Axiom {\\sl Hyperdoc}\\\\" >>toc.toc ; \
echo \
    "{\\bf Volume ~ 7.1}: Axiom {\\sl Hyperdoc Pages}\\\\" >>toc.toc ; \
echo "{\\bf Volume ~ 8}: Axiom {\\sl Graphics}\\\\" >>toc.toc ; \
echo "{\\bf Volume ~ 8.1}: Axiom {\\sl Gallery}\\\\" >>toc.toc ; \
echo "{\\bf Volume ~ 9}: Axiom {\\sl Compiler}\\\\" >>toc.toc ; \
echo "{\\bf Volume 10}: Axiom {\\sl Algebra: Implementation}\\\\" >>toc.toc ; \
echo "{\\bf Volume 10.1}: Axiom {\\sl Algebra: Theory}\\\\" >>toc.toc ; \
echo "{\\bf Volume 10.2}: Axiom {\\sl Algebra: Categories}\\\\" >>toc.toc ; \
echo "{\\bf Volume 10.3}: Axiom {\\sl Algebra: Domains}\\\\" >>toc.toc ; \
echo "{\\bf Volume 10.4}: Axiom {\\sl Algebra: Packages}\\\\" >>toc.toc ; \
echo "{\\bf Volume 10.5}: Axiom {\\sl Algebra: Numerics}\\\\" >>toc.toc ; \
echo "{\\bf Volume 11}: Axiom {\\sl Browser}\\\\" >>toc.toc ; \
echo "{\\bf Volume 12}: Axiom {\\sl Crystal}\\\\" >>toc.toc ; \
echo "{\\bf Volume 13}: Axiom {\\sl Proving Axiom Correct}\\\\" \
    >>toc.toc ; \
echo "{\\bf Bibliography}: Axiom {\\sl Bibliography}\\\\" >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\tableofcontents" >>toc.tex ; \
echo "\\end{document}" >>toc.tex ; \
echo "\\section*{Volume 0: Axiom Jenks and Sutor}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvol0.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 1: Axiom Tutorial}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvol1.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 2: Axiom Users Guide}" >>toc.toc ; \
\getchunk{sed pattern}

```

```

        <bookvol12.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 3: Axiom Programmers Guide}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol13.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 4: Axiom Developers Guide}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol14.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 5: Axiom Interpreter}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol15.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 6: Axiom Command}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol16.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 7: Axiom Hyperdoc}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol17.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 7.1: Axiom Hyperdoc}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol17.1.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 8: Axiom Graphics}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol18.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 8.1: Axiom Gallery}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol18.1.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 9: Axiom Compiler}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol19.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 10: Axiom Algebra: Implementation}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol110.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 10.1: Axiom Algebra: Theory}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol110.1.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 10.2: Axiom Algebra: Categories}" >>toc.toc ; \
\getchunk{sed pattern}
        <bookvol110.2.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \

```

```

echo "\\section*{Volume 10.3: Axiom Algebra: Domains}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvol10.3.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 10.4: Axiom Algebra: Packages}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvol10.4.toc >>toc.toc ; \
    <bookvol10.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 10.5: Axiom Algebra: Numerics}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvol10.5.toc >>toc.toc ; \
    <bookvol10.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 11: Axiom Browser}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvol11.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 12: Axiom Crystal}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvol12.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Volume 13: Proving Axiom Correct}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvol13.toc >>toc.toc ; \
echo "\\newpage" >>toc.toc ; \
echo "\\section*{Bibliography: Axiom Bibliography}" >>toc.toc ; \
\getchunk{sed pattern}
    <bookvolbib.toc >>toc.toc ; \
if [ -z "${NOISE}" ] ; then \
    ${LATEX} toc.tex ; \
    ${DVIPS} toc.dvi 2>/dev/null ; \
    ${PS2PDF} toc.ps 2>/dev/null ; \
    ${RM} -f toc.aux toc.dvi toc.log toc.ps toc.tex toc.toc ; \
else \
    ${LATEX} toc.tex >${TMP}/trace ; \
    ${DVIPS} toc.dvi 2>${TMP}/trace ; \
    ${PS2PDF} toc.ps 2>${TMP}/trace ; \
    ${RM} -f toc.aux toc.dvi toc.log toc.ps toc.tex toc.toc ; \
fi )

```

---

### 3 Combined Bibliography

## References

- [1] CMUCL <http://www.cons.org/cmucl>
- [2] GCL <http://savannah.gnu.org/projects/gcl>
- [3] Codemist Ltd, “Alta”, Horsecombe Vale Combs Down Bath BA2 5QR UK  
Tel. +44-1225-837430 <http://www.codemist.co.uk>
- [4] \$SPAD/zip\$noweb-2.10a.tgz, the noweb source tree
- [5] \$SPAD/zip\$advi-1.2.0.tar.gz, the advi source tree