The **apxproof** package[*]
Proofs in Appendix

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1 Usage

TODO

2 Implementation

```
1 \RequirePackage{fancyvrb}
2 \RequirePackage{ifthen}
3 \RequirePackage{environ}
4 \RequirePackage{bibunits}
5 \let\proof\undefined
6 \let\endproof\undefined
7 \RequirePackage{amsthm}
8 \RequirePackage{etoolbox}
9 \RequirePackage{ifmtarg}
10 \RequirePackage{stack}
11
12 \makeatletter
13 \newwrite\axp@proofsfile
14 \immediate\openout\axp@proofsfile=\jobname.axp
15 \immediate\write\axp@proofsfile{%
16   \noexpand\makeatletter
17   \noexpand\let\noexpand\proof\noexpand\oldproof
18   \noexpand\let\noexpand\endproof\noexpand\endoldproof
19 }
20 \def\FVB@VerbatimOut{%
21   \@bsphack
22   \begingroup
23     \FV@UseKeyValues
24     \FV@DefineWhiteSpace
```

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[*]This document corresponds to apxproof v1.0.0, dated 2016/10/27.

```latex
25      \def\FV@Space{\space}%
26      \FV@DefineTabOut
27      \def\FV@ProcessLine{\immediate\write\axp@proofsfile}%
28      \let\FV@FontScanPrep\relax
29      \let\@noligs\relax
30      \FV@Scan}
31 \def\FVE@VerbatimOut{\endgroup\@esphack}
32
33 \let\apxold@proof\proof
34 \let\endapxold@proof\endproof
35
36 \renewenvironment{proof}
37      {\axp@writesection\immediate\write\axp@proofsfile{\noexpand\begin{apxold@proof}}\VerbatimO
38      {\endVerbatimOut\immediate\write\axp@proofsfile{\noexpand\end{apxold@proof}}}
39
40 \AtEndDocument{%
41      \clearpage\onecolumn\appendix
42      \begin{bibunit}[alpha]%
43      \immediate\closeout\axp@proofsfile\input{\jobname.axp}%
44      \providecommand{\refname}{References for the Appendix}%
45      \putbib
46      \end{bibunit}%
47 }
48
49 \let\apxold@bibliography\bibliography
50 \renewcommand\bibliography[1]{%
51      \defaultbibliography{#1}%
52      \apxold@bibliography{#1}%
53 }
54
55 \newcounter{axp@rpcounter}
56 \newcounter{axp@seccounter}
57
58 \let\apxold@label\label
59 \renewcommand{\label}[1]{%
60      \ifcsname c@#1\endcsname
61      \else
62          \newcounter{#1}\apxold@label{#1}%
63      \fi
64 }
65
66 \newcommand{\newtheoremrep}[2]{%
67      \newtheorem*{axp#1rp}{#2}%
68      \expandafter\let\csname #1\endcsname\undefined
69      \expandafter\let\csname c@#1\endcsname\undefined
70      \newtheorem{#1}{#2}%
71      \NewEnviron{#1rep}[1][]{%
72          \addtocounter{axp@rpcounter}{1}%
73          \begin{#1}[##1]\apxold@label{axp@r\roman{axp@rpcounter}}\BODY\end{#1}%
74          \global\expandafter\let\csname rplet\roman{axp@rpcounter}\endcsname\BODY%
```

2

```latex
75      \axp@writesection%
76      \immediate\write\axp@proofsfile{%
77        \noexpand\begin{axp#1rp}[\noexpand\ref{axp@r\roman{axp@rpcounter}}}\@ifnotempty{##1}{\r
78        \expandafter\noexpand\csname rplet\roman{axp@rpcounter}\endcsname\noexpand\end{axp#1rp
79        }
80    }
81 }
82
83 \def\apx@sectitle{}
84
85 \let\apxold@section\section
86 \def\section{\@ifstar\@section{\@dblarg\@@section}}
87 \def\@section#1{%
88    \global\edef\apx@sectitle{#1}%
89    \apxold@section*{#1}%
90    \addtocounter{axp@seccounter}{1}%
91    \label{axp@s\roman{axp@seccounter}}%
92 }
93 \def\@@section[#1]#2{%
94    \global\edef\apx@sectitle{#1}%
95    \apxold@section{#1}%
96    \addtocounter{axp@seccounter}{1}%
97    \label{axp@s\roman{axp@seccounter}}%
98 }
99
100 \newcommand\axp@writesection{%
101    \ifx\apx@sectitle\empty
102    \else
103      \immediate\write\axp@proofsfile{\noexpand\def\noexpand\tmp{\noexpand\ref{axp@s\roman{axp
104      (\apx@sectitle)}}}%
105      \global\def\apx@sectitle{}%
106    \fi
107 }
108
109 \newenvironment{proofsketch}
110    {\vskip3pt\noindent\emph{Proof sketch.} }
111    {\hfill\qed\vskip3pt}
112
113 \newenvironment{toappendix}
114    {\axp@writesection\VerbatimOut}
115    {\endVerbatimOut}
116
117 \ifdefined\@acmtitlebox
118    \newtheoremstyle{mystyle}%
119      {3pt}
120      {3pt}
121      {\itshape}
122      {}
123      {\scshape}
124      {.}
```

```
125    {.5em}
126    {}
127  \theoremstyle{mystyle}
128 \fi
129
130 \def\thmhead#1#2#3{%
131    \thmname{#1}\thmnumber{\@ifnotempty{#1}{ }\@upn{#2}}%
132    \thmnote{ #3}}
133
134 \makeatother
```

Change History

v1.0.0

References

[BP98] Sergey Brin and Lawrence Page. The anatomy of a large-scale hypertextual Web search engine. *Computer Networks*, 30(1–7):107–117, April 1998.

[sit08] sitemaps.org. Sitemaps XML format. `http://www.sitemaps.org/protocol.php`, February 2008.