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 \@ifpackageloaded{amsthm}{}{%
6   \let\proof\undefined
7   \let\endproof\undefined
8 }
9 \RequirePackage{amsthm}
10 \RequirePackage{etoolbox}
11 \RequirePackage{ifmtarg}
12 \RequirePackage{stack}
13
14 \makeatletter
15 \newwrite\axp@proofsfile
16 \immediate\openout\axp@proofsfile=\jobname.axp
17 \immediate\write\axp@proofsfile{%
18   \noexpand\makeatletter
19   \noexpand\let\noexpand\proof\noexpand\apxold@proof
20   \noexpand\let\noexpand\endproof\noexpand\endapxold@proof
21   \noexpand\let\noexpand\section\noexpand\apxold@section
22 }
23 \def\FVB@VerbatimOut{%
24   \@bsphack
```

---

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

```latex
25    \begingroup
26      \FV@UseKeyValues
27      \FV@DefineWhiteSpace
28      \def\FV@Space{\space}%
29      \FV@DefineTabOut
30      \def\FV@ProcessLine{\immediate\write\axp@proofsfile}%
31      \let\FV@FontScanPrep\relax
32      \let\@noligs\relax
33      \FV@Scan}
34 \def\FVE@VerbatimOut{\endgroup\@esphack}
35
36 \let\apxold@proof\proof
37 \let\endapxold@proof\endproof
38
39 \newtoggle{apx@seenreptheorem}
40
41 \newenvironment{appendixproof}
42    {%
43      \axp@writesection
44      \immediate\write\axp@proofsfile{%
45        \noexpand\begin{apxold@proof}%
46      }%
47      \VerbatimOut
48    }
49    {%
50      \endVerbatimOut
51      \immediate\write\axp@proofsfile{%
52        \noexpand\end{apxold@proof}%
53      }%
54      \global\togglefalse{apx@seenreptheorem}%
55    }
56
57 \renewenvironment{proof}
58    {%
59      \iftoggle{apx@seenreptheorem}{%
60        \appendixproof
61      }{%
62        \apxold@proof
63      }%
64    }
65    {%
66      \iftoggle{apx@seenreptheorem}{%
67        \endappendixproof
68      }{%
69        \endapxold@proof
70      }%
71    }
72
73 \let\inlineproof\apxold@proof
74 \let\endinlineproof\endapxold@proof
```

```latex
75
76  \let\nestedproof\apxold@proof
77  \let\endnestedproof\endapxold@proof
78
79  \def\@getcl@ss#1.cls#2\relax{\def\@currentclass{#1}}
80  \def\@getclass{\expandafter\@getcl@ss\@filelist\relax}
81  \@getclass
82
83  \newcommand{\appendixrefname}{References for the Appendix}
84  \newcommand{\appendixbibliographystyle}{alpha}
85  \newcommand{\appendixbibliographyprelim}{%
86    \ifthenelse{\equal{\@currentclass}{lipics}}{%
87      \global\let\oldbiblabel\@biblabel
88      \def\@biblabel{\hspace*{-2em}\small\oldbiblabel}%
89    }{}
90  }
91
92  \AtEndDocument{%
93    \clearpage\onecolumn\appendix
94    \appendixbibliographyprelim
95    \begin{bibunit}[\appendixbibliographystyle]%
96    \immediate\closeout\axp@proofsfile\input{\jobname.axp}%
97    \renewcommand{\refname}{\appendixrefname}%
98    \putbib
99    \end{bibunit}%
100 }
101
102 \let\apxold@bibliography\bibliography
103 \renewcommand\bibliography[1]{%
104   \defaultbibliography{#1}%
105   \apxold@bibliography{#1}%
106 }
107
108 \newcounter{axp@rpcounter}
109 \newcounter{axp@seccounter}
110
111
112 \newcommand\newtheoremrep[1]{%
113   \@oparg{\axp@newtheoremrep{#1}}[]%
114 }
115 \def\axp@newtheoremrep#1[#2]#3{%
116   \newtheorem*{axp@#1rp}{#3}%
117   \expandafter\let\csname #1\endcsname\undefined
118   \expandafter\let\csname c@#1\endcsname\undefined
119   \newtheorem{#1}[#2]{#3}%
120   \NewEnviron{#1rep}[1][]{%
121     \addtocounter{axp@rpcounter}{1}%
122     \begin{#1}[##1]\label{axp@r\roman{axp@rpcounter}}\BODY\end{#1}%
123     \global\toggletrue{apx@seenreptheorem}%
124     \global\expandafter\let\csname rplet\roman{axp@rpcounter}\endcsname\BODY%
```

```
125     \axp@writesection%
126     \immediate\write\axp@proofsfile{%
127       \noexpand\begin{axp@#1rp}[\noexpand\ref{axp@r\roman{axp@rpcounter}}]\@ifnotempty{##1}{\
128       \noexpand\let\noexpand\label\noexpand\@gobble%
129       \expandafter\noexpand\csname rplet\roman{axp@rpcounter}\endcsname\noexpand\end{axp@#1r
130       }
131   }
132 }
133
134 \def\apx@sectitle{}
135
136 \let\apxold@section\section
137 \def\section{\@ifstar\@section\@@section}
138 \def\@section#1{%
139   \global\edef\apx@sectitle{#1}%
140   \apxold@section*{#1}%
141   \addtocounter{axp@seccounter}{1}%
142   \label{axp@s\roman{axp@seccounter}}%
143 }
144 \def\@@section#1{%
145   \global\edef\apx@sectitle{#1}%
146   \apxold@section{#1}%
147   \addtocounter{axp@seccounter}{1}%
148   \label{axp@s\roman{axp@seccounter}}%
149 }
150 \ifdefined\@acmtitlebox
151   \def\section{\@ifstar\@section{\@dblarg{\@@section}}}
152   \def\@@section#1#2{%
153     \global\edef\apx@sectitle{#2}%
154     \apxold@section{#2}%
155     \addtocounter{axp@seccounter}{1}%
156     \label{axp@s\roman{axp@seccounter}}%
157   }
158 \fi
159
160 \newcommand{\nosectionappendix}{
161   \global\def\apx@sectitle{}%
162 }
163
164 \newcommand\axp@writesection{%
165   \ifx\apx@sectitle\empty
166   \else
167     \immediate\write\axp@proofsfile{\noexpand\def\noexpand\tmp{\noexpand\ref{axp@s\roman{axp
168     (\apx@sectitle)}}%
169     \nosectionappendix
170   \fi
171 }
172
173 \newenvironment{proofsketch}
174   {\vskip3pt\noindent\emph{Proof sketch.} }
```

4

```
175    {\hfill\qed\vskip3pt}
176
177  \newenvironment{toappendix}
178    {\axp@writesection\VerbatimOut}
179    {\endVerbatimOut}
180
181  \ifdefined\@acmtitlebox
182    \newtheoremstyle{mystyle}%
183      {3pt}
184      {3pt}
185      {\itshape}
186      {}
187      {\scshape}
188      {.}
189      {.5em}
190      {}
191    \theoremstyle{mystyle}
192
193    \newcommand{\refname}{REFERENCES}
194    \patchcmd{\thebibliography}{References}{\protect\refname}{}{}
195    \patchcmd{\thebibliography}{References}{\protect\refname}{}{}
196
197    \renewcommand{\appendixrefname}{REFERENCES FOR THE APPENDIX}
198  \fi
199
200  \def\thmhead#1#2#3{%
201    \thmname{#1}\thmnumber{\@ifnotempty{#1}{ }\@upn{#2}}%
202    \thmnote{ #3}}
203
204  \makeatother
```

Change History

v1.0.0

References for the Appendix

[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.