

# xbmks: Cross-document bookmarks

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## Contents

<b>1 Description</b>	<b>1</b>
<b>2 Drivers and options</b>	<b>2</b>
<b>3 Process the options</b>	<b>2</b>
<b>4 Requirements</b>	<b>2</b>
<b>5 Driver dependent code</b>	<b>4</b>
5.1 The pdfmark driver . . . . .	4
5.2 Code for pdf <sub>tex</sub> /luat <sub>ex</sub> driver . . . . .	6
5.3 Code for xet <sub>ex</sub> driver . . . . .	8
<b>6 Index</b>	<b>11</b>
<b>7 Change History</b>	<b>12</b>
1 % Begin package	
2 <*package>	
3 \RequirePackage{xkeyval}	
4 \RequirePackage{ifpdf}[2006/02/20]	
5 \RequirePackage{ifxetex}[2006/08/21]	

## 1 Description

More than a couple decades ago (counting back from 2018), I wrote two mathematics tutorials: *eCalculus* and *Algebra Review in Ten Lessons*. The tutorials consisted of a number of lessons, each in a separate PDF. The bookmarks of each lessons contained the table of contents for the whole tutorial. A student, in theory, could then jump from one lesson to another by selecting an entry of interest from the bookmarks. In the intervening years I have not seen a L<sup>A</sup>T<sub>E</sub>X package for merging the table of contents of a set of PDFs and merge them in this each member of the set. This package attempts to do just that.

## 2 Drivers and options

We support the drivers dvips (and dvipsone), pdflatex, lualatex, and xelatex; these options are then named dvipsone, dvips, pdftex, luatex, and xetex.

```
6 \def\xbmk@driver{xbmks-pdfmark.def}
7 \DeclareOptionX{dvipsone}{\def\xbmk@driver{xbmks-pdfmark.def}}
8 \DeclareOptionX{dvips}{\def\xbmk@driver{xbmks-pdfmark.def}}
9 \DeclareOptionX{pdftex}{\def\xbmk@driver{xbmks-pdftex.def}}
10 \DeclareOptionX{luatex}{\def\xbmk@driver{xbmks-pdftex.def}}
11 \DeclareOptionX{xetex}{\def\xbmk@driver{xbmks-xetex.def}}
```

## 3 Process the options

```
12 \ifpdf\ExecuteOptionsX{pdftex}\else
13 \ifxetex\ExecuteOptionsX{xetex}\else
14 \let\ExecuteOptions@SAVE\ExecuteOptions
15 \let\ExecuteOptions\ExecuteOptionsX
16 \InputIfFileExists{web.cfg}{}
17 {\@ifundefined{!tex@@@driver}{\ExecuteOptionsX{dvips}}
18 {\ExecuteOptionsX{dvipsone}}}%
19 \let\ExecuteOptions\ExecuteOptions@SAVE
20 \fi\fi
21 \ProcessOptionsX
```

## 4 Requirements

The minimal requirement is hyperref and its built-in bookmark system. It is important to note that the bookmark package is not supported.

```
22 \RequirePackage{hyperref}
```

`\xbmksetup` Set the cross-document options:

```
\xbmksetup{
  docbundle={\langle doc_1 \rangle, \langle doc_2 \rangle, \dots, \langle doc_n \rangle},
  colors={intdoc=\langle color \rangle, extdoc=\langle color \rangle},
  style={intbf, extbf, intit, extit}
}
```

This command must appear in one and only one of the document bundle, perhaps one of the documents you are calling the ‘main file’. It writes the key-values to the file `xbmks.cfg` which is then read back in by the other members of the document bundle, as specified by the `docbundle` key. The base names of the document bundle must match the name given to it by `\jobname`, exact spelling, case sensitive.

```
23 \define@key{xbmksetup}{docbundle}[]{\def\x@bmks@docs{#1}}
24 \let\x@bmks@docs\empty
25 \define@key{xbmksetup}{colors}[]{\def\x@bmks@colors{#1}}
```

```

26 \let\x@bmks@colors\@empty
27 \define@key{xbmksetup}{style}[]{\def\x@bmks@style{#1}}
28 \let\x@bmks@style\@empty
29 \define@key{xbmk@colors}{intdoc}[]{%
30   \HyColor@BookmarkColor{#1}{\x@bmks@intdoc}{\x@bmks}{intdoc}%
31   \ifx\x@bmks@intdoc\@empty\else
32     \edef\x@bmks@intdoc{/C[\x@bmks@intdoc]}\fi
33 }
34 \let\x@bmks@intdoc\@empty
35 \define@key{xbmk@colors}{extdoc}[]{%
36   \HyColor@BookmarkColor{#1}{\x@bmks@extdoc}{\x@bmks}{extdoc}%
37   \ifx\x@bmks@extdoc\@empty\else
38     \edef\x@bmks@extdoc{/C[\x@bmks@extdoc]}\fi
39 }
40 \let\x@bmks@extdoc\@empty
41 \let\x@bmks@Yes=y \let\x@bmks@No=n
42 \define@boolkey{xbmk@style}{intbf}[true]{% \ifKV@xbmk@style@intbf
43 \define@boolkey{xbmk@style}{extbf}[true]{%
44 \define@boolkey{xbmk@style}{intit}[true]{%
45 \define@boolkey{xbmk@style}{extit}[true]{%
46 \newcommand{\xbmksetup}[1]{\setkeys{xbmksetup}{#1}%
47   \ifx\x@bmks@docs\@empty
48     \PackageInfo{xbmk}{The docbundle key of \string\xbmksetup\space
49     is empty, \MessageBreak
50     I will give it a value of '\jobname', \MessageBreak
51     in hopes this is your intention}%
52     \def\x@bmks@next{\write@xbmk@cfg{docbundle={\jobname},#1}}\else
53     \def\x@bmks@next{\write@xbmk@cfg{#1}}\fi\x@bmks@next
54 }
55 \def\write@xbmk@cfg#1{%
56   \newwrite\x@bmks@setup \immediate\openout \x@bmks@setup xbmk.cfg
57   \set@display@protect
58   \immediate\write\x@bmks@setup{\protect\xbmksetup{#1}}
59   \set@typeset@protect
60   \immediate\closeout\x@bmks@setup
61 }
62 \newcommand{\xbmksetup}[1]{%
63   \setkeys{xbmksetup}{#1}%
64   \edef\@exp@for{\noexpand\docbundle{\x@bmks@docs}}\expandafter
65   \@exp@for
66   \edef\@exp@keys{\noexpand
67     \setkeys{xbmk@colors}{\x@bmks@colors}}\@exp@keys
68   \edef\@exp@keys{\noexpand
69     \setkeys{xbmk@style}{\x@bmks@style}}\@exp@keys
70   \def\xbmk@intF{}%
71   \ifKV@xbmk@style@intit
72     \ifKV@xbmk@style@intbf
73       \def\xbmk@intF{/F 3}%
74     \else
75       \def\xbmk@intF{/F 1}%

```

```

76      \fi
77    \else
78      \ifKV@xbmk@style@intbf
79      \def\xbmk@intF{/F 2}%
80    \fi
81  \fi
82  \def\xbmk@extF{}%
83  \ifKV@xbmk@style@extit
84    \ifKV@xbmk@style@extbf
85    \def\xbmk@extF{/F 3}%
86  \else
87    \def\xbmk@extF{/F 1}%
88  \fi
89  \else
90    \ifKV@xbmk@style@extbf
91    \def\xbmk@extF{/F 2}%
92  \fi
93  \fi
94 }

```

`\docbundle` is a comma-delimited list of document base names:

$$\text{\docbundle}\{\langle doc_1 \rangle, \langle doc_2 \rangle, \dots, \langle doc_n \rangle\}$$

This command is called internally by `\xbmksetup`.

```

95 \def\xbmk@csarg#1#2{\expandafter#1\csname#2\endcsname}
96 \xdef\xbmk@cnt{0}
97 \newcommand{\docbundle}[1]{\bgroup
98   \def\thisDoc{\jobname}\count\z@=0 %
99   \edef\@tmpexp{\noexpand\@for\noexpand\@arg:=#1}%
100  \@tmpexp\do{%
101    \advance\count\z@ by 1\relax
102    \edef\@tmpexp{\noexpand\xbmk@recordDoc{\@arg}}\@tmpexp
103  }%
104  \xdef\xbmk@cnt{\the\count\z@}\egroup
105 }
106 \newcommand{\xbmk@recordDoc}[1]{%
107   \xbmk@csarg\xdef{\xbmk@doc\the\count\z@}{#1}}

108 % End package
109 </package>
110 <*pdfmark>

```

## 5 Driver dependent code

### 5.1 The pdfmark driver

We redefine/modify the `\ReadBookmarks` command of `hyperref`, this definition is driver dependent.

```

111 \def\ReadBookmarks{%
112   \pdf@ifdraftmode{}{%
113     \begingroup
114       \def\calc@bm@number##1{%
115         \@tempcnta=\check@bm@number{##1}\relax
116         \advance\@tempcnta by 1 %
117         \expandafter\edef\csname B_##1\endcsname{\the\@tempcnta}%
118       }%
119       \def\do##1{%
120         \ifnum\catcode'##1=\active
121           \@makeother##1%
122         \else
123           \ifnum\catcode'##1=6 %
124             \@makeother##1%
125           \fi
126         \fi
127       }%
128       \dospecials
129       \Hy@safe@activetrue
130       \escapechar='\\%
131       \ifx\WriteBookmarks\relax
132         \global\let\WriteBookmarks\relax
133       \fi
134       \begingroup
135         \def\WriteBookmarks{0}%
136         \count\z@=0\relax
137         \edef\xbm@J{\jobname}%
138         \@whilenum \count\z@<\xbm@cnt\relax\do{%
139           \advance\count\z@ by 1 %
140           \edef\xbm@thisdoc{\xbm@doc\the\count\z@}%
141           \edef\xbm@filename{\@nameuse{\xbm@thisdoc}}%
142           \onelevel@sanitize\xbm@filename
143           \bgroup
144           \def\@BOOKMARK[##1][##2]##3##4##5{%
145             \calc@bm@number{##5}%
146           }%
147           \InputIfFileExists{\xbm@filename.out}{-}{-}%
148           \def\@BOOKMARK[##1][##2]##3##4##5{%
149             \def\Hy@temp{##4}%
150             \ifx\xbm@J\xbm@filename
151               \pdfmark{%
152                 pdfmark=/OUT,%
153                 Count={##2\check@bm@number{##3}},%
154                 Raw={\xbm@intdoc\xbm@intF},%
155                 Dest={##3},%
156                 Title=\expandafter\strip@prefix\meaning\Hy@temp
157               }%
158             \else
159               \pdfmark{%
160                 pdfmark=/OUT,%

```

```

161         Count={##2\check@bm@number{##3}},%
162         Raw={\xbmks@extdoc\xbmks@extF},%
163         Action=/GoToR,%
164         File={\xbmk@filename.pdf},%
165         Dest={##3},%
166         Title=\expandafter\strip@prefix\meaning\Hy@temp
167     }%
168     \fi
169 }%
170 \InputIfFileExists{\xbmk@filename.out}{-}{-}%
171 \egroup
172 }% \@whilenum
173 \endgroup
174 \endgroup
175 }%
176 \ifx\WriteBookmarks\relax\else
177     \if@filesw
178         \newwrite\@outlinefile
179         \Hy@OutlineRerunCheck
180         \immediate\openout\@outlinefile=\jobname.out\relax
181         \ifHy@typexml
182             \immediate\write\@outlinefile{<relaxxml>\relax}%
183         \fi
184     \fi
185 \fi
186 }
187 </pdfmark>

```

## 5.2 Code for pdftex/luatex driver

We redefine/modify the `\ReadBookmarks` command of `hyperref`, this definition is driver dependent.

```

188 <*pdftex>
189 \def\ReadBookmarks{%
190     \pdf@ifdraftmode{-}%
191     \begingroup
192     \def\calc@bm@number##1{%
193         \@tempcnta=\check@bm@number{##1}\relax
194         \advance\@tempcnta by 1 %
195         \expandafter\edef\csname B_##1\endcsname{\the\@tempcnta}%
196     }%
197     \def\Hy@OutlineName##1##2##3##4{\def\@rgi{##1}%
198         \expandafter\pdfoutline\ifx\@rgi@empty\else
199             attr {##1} \fi
200             user {##2} count##3{##4}%
201         % goto name{#2} count#3{#4}%
202     }%
203     \def\do##1{%
204         \ifnum\catcode'##1=\active

```

```

205         \@makeother##1%
206     \else
207         \ifnum\catcode'##1=6 %
208             \@makeother##1%
209         \fi
210     \fi
211 }%
212 \dospecials
213 \Hy@safe@activetrue
214 \escapechar='\\%
215 \ifx\WriteBookmarks\relax
216     \global\let\WriteBookmarks\relax
217 \fi
218 \begingroup
219 \def\WriteBookmarks{0}%
220 \count\z@=0\relax
221 % \toks0=\expandafter{\jobname}%
222 % \edef\xbmkJ{\the\toks0}%
223 \edef\xbmkJ{\jobname}%
224 \@whilenum \count\z@<\xbmk@cnt\relax\do{%
225     \advance\count\z@ by 1 %
226     \edef\xbmk@thisdoc{\xbmk@doc\the\count\z@}%
227     \edef\xbmk@filename{\@nameuse{\xbmk@thisdoc}}%
228     \@onelevel@sanitize\xbmk@filename
229     \bgroup
230     \gdef\@BBOOKMARK[##1][##2]###4###5{%
231         \calc@bm@number{##5}%
232     }%
233     \InputIfFileExists{\xbmk@filename.out}{-}{-}%
234     \gdef\@BBOOKMARK[##1][##2]###3###4###5{%
235         \def\Hy@temp{##4}%
236         \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
237         \ifx\xbmkJ\xbmk@filename
238             \Hy@OutlineName{\xbmks@intdoc\xbmkJ@intF}{<</S/GoTo%
239                 /D(\Hy@pstringName)>>}{%
240                 ##2\check@bm@number{\Hy@pstringName}%
241             }{%
242                 \expandafter\strip@prefix\meaning\Hy@temp
243             }%
244         \else
245             \Hy@OutlineName{\xbmks@extdoc\xbmkJ@extF}{<</S/GoToR%
246                 /F(\xbmk@filename.pdf)/D(\Hy@pstringName)>>}{%
247                 ##2\check@bm@number{##3}%
248             }{%
249                 \expandafter\strip@prefix\meaning\Hy@temp
250             }%
251         \fi
252     }% bookmark
253     \InputIfFileExists{\xbmk@filename.out}{-}{-}%
254 \egroup

```

```

255     } % \@whilenum
256     \endgroup
257 }%
258 \ifx\WriteBookmarks\relax
259 \else
260     \if@filesw
261         \newwrite\@outlinefile
262         \Hy@OutlineRerunCheck
263         \immediate\openout\@outlinefile=\jobname.out\relax
264         \ifHy@typexml
265             \immediate\write\@outlinefile{<relaxxml>\relax}%
266         \fi
267     \fi
268 \fi
269 }
270 </pdfTeX>
271 <*xetex>

```

### 5.3 Code for xetex driver

We redefine/modify the `\ReadBookmarks` command of `hyperref`, this definition is driver dependent.

```

272 \def\ReadBookmarks{%
273     \pdf@ifdraftmode{}{%
274         \begingroup
275         \def\calc@bm@number##1{%
276             \@tempcnta=\check@bm@number{##1}\relax
277             \advance\@tempcnta by 1 %
278             \expandafter\edef\csname B_##1\endcsname{\the\@tempcnta}%
279         }%
280         \def\do##1{%
281             \ifnum\catcode'##1=\active
282                 \@makeother##1%
283             \else
284                 \ifnum\catcode'##1=6 %
285                     \@makeother##1%
286                 \fi
287             \fi
288         }%
289         \dospecials
290         \Hy@safe@activestrue
291         \escapechar='\\%
292         \ifx\WriteBookmarks\relax
293             \global\let\WriteBookmarks\relax
294         \fi
295         \begingroup
296         \def\WriteBookmarks{0}%
297         \count\z@=0\relax
298         \edef\xbm{J{\jobname}%

```



```

299      \@whilenum \count\z@<\xbmk@cnt\relax\do{%
300          \advance\count\z@ by 1 %
301          \edef\xbmk@thisdoc{\xbmk@doc\the\count\z@}%
302          \edef\xbmk@filename{\@nameuse{\xbmk@thisdoc}}%
303          \onelevel@sanitize\xbmk@filename
304          \bgroup
305          \def\@@BOOKMARK[##1][##2]##3##4##5{%
306              \calc@bm@number{##5}%
307          }%
308          \InputIfFileExists{\xbmk@filename.out}{-}{-}%
309          \def\@@BOOKMARK[##1][##2]##3##4##5{%
310              \def\Hy@temp{##4}%
311              \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
312              \@pdfm@mark{%
313                  outline \ifHy@DvipdfmxOutlineOpen
314                      [%
315                          \ifnum##21>\z@
316                          \else
317                          -%
318                          \fi
319                      ] %
320                  \fi
321                  ##1<<%
322                  /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
323                  \ifx\xbmk@J\xbmk@filename
324                      /A<<%
325                      /S/GoTo%
326                      /D(\Hy@pstringName)%
327                      >>%
328                      \xbmks@intdoc\xbmk@intF
329                  \else
330                      /A<<%
331                      /S/GoToR/F(\xbmk@filename.pdf)%
332                      /D(\Hy@pstringName)%
333                      >>%
334                      \xbmks@extdoc\xbmk@extF
335                  \fi
336                  >>%
337                  }% \@pdfm@mark
338              }% bookmark
339              \InputIfFileExists{\xbmk@filename.out}{-}{-}%
340          \egroup
341      }% \@whilenum
342  \endgroup
343 \endgroup
344 }%
345 \ifx\WriteBookmarks\relax
346 \else
347     \if@filesw
348         \newwrite\@outlinefile

```

```

349     \Hy@OutlineRerunCheck
350     \immediate\openout\@outlinefile=\jobname.out\relax
351     \ifHy@typexml
352         \immediate\write\@outlinefile{<relaxxml>\relax}%
353     \fi
354 \fi
355 \fi
356 }
357 </xetex>
358 <*package>
359 \InputIfFileExists{xbmks.cfg}{-}{-}
360 \@ifpackageloaded{bookmark}{\PackageWarningNoLine{xbmks}{The
361   bookmark package is not supported;\MessageBreak
362   this package does nothing, as a result}}
363 {\InputIfFileExists{\xbmk@driver}{-}{-}}
364 </package>

```

## 6 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

Symbols		I	
\@@BOOKMARK	144, 148, 230, 234, 305, 309	\if@filesw	177, 260, 347
\@arg	99, 102	\ifHy@DvipdfmxOutlineOpen	313
\@exp@for	64, 65	\ifHy@typexml	181, 264, 351
\@exp@keys	66–69	\ifKV@xbmk@style@extbf	84, 90
\@makeother	121, 124, 205, 208, 282, 285	\ifKV@xbmk@style@extit	83
\@onelevel@sanitize	142, 228, 303	\ifKV@xbmk@style@intbf	42, 72, 78
\@outlinefile	178, 180, 182, 261, 263, 265, 348, 350, 352	\ifKV@xbmk@style@intit	71
\@pdfm@mark	312, 337	\ifpdf	12
\@rgi	197, 198	\ifxetex	13
\@tmpexp	99, 100, 102	\InputIfFileExists	16, 147, 170, 233, 253, 308, 339, 359, 363
A		N	
\active	120, 204, 281	\newwrite	56, 178, 261, 348
B		O	
\bgroup	97, 143, 229, 304	\openout	56, 180, 263, 350
C		P	
\calc@bm@number	114, 145, 192, 231, 275, 306	\PackageInfo	48
\check@bm@number	115, 153, 161, 193, 240, 247, 276	\PackageWarningNoLine	360
D		\pdf@ifdraftmode	112, 190, 273
\DeclareOptionX	7–11	\pdfmark	151, 159
\define@boolkey	42–45	\pdfoutline	198
\docbundle	64, <u>95</u>	\ProcessOptionsX	21
\dospecials	128, 212, 289	R	
E		\ReadBookmarks	111, 189, 272
\egroup	104, 171, 254, 340	\RequirePackage	3–5, 22
\escapechar	130, 214, 291	S	
\ExecuteOptions	14, 15, 19	\set@display@protect	57
\ExecuteOptions@SAVE	14, 19	\set@typeset@protect	59
\ExecuteOptionsX	12, 13, 15, 17, 18	\strip@prefix	156, 166, 242, 249, 322
H		T	
\Hy@OutlineName	197, 238, 245	\thisDoc	98
\Hy@OutlineRerunCheck	179, 262, 349	\toks	221, 222
\Hy@pstringdef	236, 311	W	
\Hy@pstringName	236, 239, 240, 246, 311, 326, 332	\write	58, 182, 265, 352
\Hy@safe@activestruer	129, 213, 290	\write@xbmks@cfg	52, 53, 55
\Hy@temp	149, 156, 166, 235, 242, 249, 310, 322	\WriteBookmarks	131, 132,
\HyColor@BookmarkColor	30, 36		135, 176, 215, 216, 219, 258, 292, 293, 296, 345
\HyperDestNameFilter	236, 311		

## X

\x@bmks@colors	25, 26, 67
\x@bmks@docs	23, 24, 47, 64
\x@bmks@style	27, 28, 69
\xbmk@cnt	96, 104, 138, 224, 299
\xbmk@csarg	95, 107
\xbmk@driver	6–11, 363
\xbmk@extF	82, 85, 87, 91, 162, 245, 334
\xbmk@filename	141, 142, 147, 150, 164, 170, 227, 228, 233, 237, 246, 253, 302, 303, 308, 323, 331, 339
\xbmk@intF	70, 73, 75, 79, 154, 238, 328

\xbmk@J	137, 150, 222, 223, 237, 298, 323
\xbmk@recordDoc	102, 106
\xbmk@thisdoc	140, 141, 226, 227, 301, 302
\xbmks@extdoc	36–38, 40, 162, 245, 334
\xbmks@intdoc	30–32, 34, 154, 238, 328
\xbmks@next	52, 53
\xbmks@No	41
\xbmks@setup	56, 58, 60
\xbmks@Yes	41
\xbmksetup	<u>23</u>
\xbmksetupi	58, 62

## 7 Change History

v1.1 (2018/06/13)

General: Fixed misspelling of drive command for pdfmark case	2
---	---

\xbmksetup: Allow an empty value of docbundle, its value is set to \jobname	2
--	---