

The unisc package

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 <https://puszcza.gnu.org.ua/projects/unisc>
 <https://puszcza.gnu.org.ua/bugs/?group=unisc>

Abstract

L^AT_EX produces small caps with `\textsc{<text>}` or `\scshape`. Both of these commands don't produce small caps in Unicode. If the output text is copied and pasted somewhere it shows the same characters used in the input. This package aims to internally convert all the characters provided to the commands mentioned above. It assumes that the file using this package is compiled with Lua/X_YL^AT_EX & a good Unicode font which has the small caps characters, e.g., Charis SIL. Please note that as there are no Unicode slots allotted to upper case small caps, both the lower case and upper case input will be converted to only one relevant Unicode character in the output, e.g., `\textsc{Hh}` will produce the same character twice unlike `\oldtextsc{Hh}`.

Contents

1	Documentation	2
1.1	Macros	2
1.2	The 'x' factor	2
1.3	Example	2
2	Implementation	3
	GNU Free Documentation License	8

The L^AT_EX package unisc

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1 Documentation

This package provides the following two macros.

1.1 Macros

This package renews two basic L^AT_EX commands, i.e., `\scshape` & `\textsc`. To keep the original definitions available for the users, I have copied the old commands & provided two of the following macros which behave exactly like their old variants.

`\oldscshape` `{\oldscshape <text>}`

`\oldtextsc` `\oldtextsc{<text>}`

1.2 The ‘x’ factor

This package doesn’t support the small capital shape of the character ‘x’ as there is no Unicode number allotted for a ‘small capital x’ as of now. The package simply prints the small x (for both `\textsc{x}` & `\textsc{X}`) as it is of the same height of the other small capital letters along with a warning message that warns the users about this deviation.

1.3 Example

```
\documentclass{article}
\usepackage{unisc}
\usepackage{fontspec}
\setmainfont{CharisSIL}% https://ctan.org/pkg/charissil

\begin{document}
\noindent\textbf{Fake small caps:}
{\oldscshape hello world} \oldtextsc{hello world}.

\noindent\textbf{Unicode small caps:}
{\scshape hello world} \textsc{hello world}.
\end{document}
```

This produces the following:

```
Fake small caps: HELLO WORLD HELLO WORLD.
Unicode small caps: HELLO WORLD HELLO WORLD.
```

2 Implementation

Provide package with its basic information.

```
1 <@=unisc>
2 <*package>
3 \ProvidesPackage{unisc}[2022/04/29 v0.2
4 Unicode small caps with Lua/XeLaTeX.]
```

Load the necessary packages.

```
5 \RequirePackage{pgfparser}
6 \RequirePackage{xpatch}
```

Make copies of old commands.

```
7 \NewCommandCopy\oldtextsc\textsc
8 \NewCommandCopy\oldscshape\scshape
```

As pointed out by Florent Rougon in [this](#) comment; the definition of `\oldtextsc` uses `\scshape` twice which needs to be replaced with `\oldscshape`. For that the following patching is done \mathcal{E} the old definition is retained.

```
9 \xpatchcmd{\oldtextsc}{\scshape}{\oldscshape}{}{\ERROR}
10 \xpatchcmd{\oldtextsc}{\scshape}{\oldscshape}{}{\ERROR}
```

The following code is kindly provided by Jonathan P. Spratte on the following thread: <https://topanswers.xyz/tex?q=2005>. I have modified it a bit as per my needs and my indentation style.

```
11 \protected\long\def\unisc@output#1{%
12   \xdef\unisc@outputcontainer{%
13     \unexpanded\expandafter{%
14       \unisc@outputcontainer\unexpanded{#1}%
15     }%
16   }%
17 }
18 \protected\long\def\unisc@outputexpanded#1{%
19   \xdef\unisc@outputcontainer{%
20     \unexpanded\expandafter{\unisc@outputcontainer#1%
21     }%
22   }%
23 }
24 \providecommand@gobbletwo[2]{}
25 \pgfparserdefunknown{scparser}{initial}{%
26   \let\unisc@initiated@empty
27   \pgfparserswitch{initiated}%
28   \pgfparserreinsert
29 }
30 \pgfparserset{scparser/silent=true}
31 \pgfparserdefunknown{scparser}{all}{%
32   \expandafter\unisc@output\expandafter{\pgfparserletter}%
33 }
34 \newcommand*\unisc@bgroup{\expandafter{\iffalse}\fi}
35 \newcommand*\unisc@egroup{\iffalse{\fi}}
36 \pgfparserdef{scparser}{all}\begingroup
37   {\begingroup\unisc@outputexpanded\begingroup}
38 \pgfparserdef{scparser}{all}\endgroup
39   {\unisc@checkend\endgroup}
40 \pgfparserdef{scparser}{all}{\meaning\bgroup}{%
```

```

41 \unisc@bgroup\unisc@outputexpanded\unisc@bgroup
42 }
43 \pgfparserdef{scparser}{all}{\meaning\egroup}
44 {\unisc@checkend\unisc@egroup}
45 \newcommand\unisc@savedefinition[1]
46 {\unexpanded{\def#1}{\unexpanded\expandafter{#1}}}
47 \protected\def\unisc@checkend#1{%
48 \expanded{%
49 \unexpanded{#1}%
50 \unexpanded{\ifdefined\unisc@initiated}%
51 \unisc@savedefinition\pgfparserstate
52 \unexpanded{\unisc@outputexpanded#1}%
53 \unexpanded{\else}%
54 \unexpanded{\pgfparserswitch{final}}%
55 \unisc@savedefinition\pgfparser@current
56 \unisc@savedefinition\pgfparser@usersname
57 \unexpanded{\fi}%
58 }%
59 }

```

Following is the code for the replacements of the regular characters with the Unicode ones.

```

60 %% LATIN LETTER SMALL CAPITAL A
61 \pgfparserdef{scparser}{initiated}a%
62 {\unisc@outputexpanded{\symbol{"1D00}}}
63 \pgfparserdef{scparser}{initiated}A%
64 {\unisc@outputexpanded{\symbol{"1D00}}}
65 %% LATIN LETTER SMALL CAPITAL B
66 \pgfparserdef{scparser}{initiated}b%
67 {\unisc@outputexpanded{\symbol{"0299}}}
68 \pgfparserdef{scparser}{initiated}B%
69 {\unisc@outputexpanded{\symbol{"0299}}}
70 %% LATIN LETTER SMALL CAPITAL C
71 \pgfparserdef{scparser}{initiated}c%
72 {\unisc@outputexpanded{\symbol{"1D04}}}
73 \pgfparserdef{scparser}{initiated}C%
74 {\unisc@outputexpanded{\symbol{"1D04}}}
75 %% LATIN LETTER SMALL CAPITAL D
76 \pgfparserdef{scparser}{initiated}d%
77 {\unisc@outputexpanded{\symbol{"1D05}}}
78 \pgfparserdef{scparser}{initiated}D%
79 {\unisc@outputexpanded{\symbol{"1D05}}}
80 %% LATIN LETTER SMALL CAPITAL E
81 \pgfparserdef{scparser}{initiated}e%
82 {\unisc@outputexpanded{\symbol{"1D07}}}
83 \pgfparserdef{scparser}{initiated}E%
84 {\unisc@outputexpanded{\symbol{"1D07}}}
85 %% LATIN LETTER SMALL CAPITAL F
86 \pgfparserdef{scparser}{initiated}f%
87 {\unisc@outputexpanded{\symbol{"A730}}}
88 \pgfparserdef{scparser}{initiated}F%
89 {\unisc@outputexpanded{\symbol{"A730}}}
90 %% LATIN LETTER SMALL CAPITAL G
91 \pgfparserdef{scparser}{initiated}g%

```

```

92  {\unisc@outputexpanded{\symbol{"0262}}}
93  \pgfparserdef{scparser}{initiated}G%
94  {\unisc@outputexpanded{\symbol{"0262}}}
95  %% LATIN LETTER SMALL CAPITAL H
96  \pgfparserdef{scparser}{initiated}h%
97  {\unisc@outputexpanded{\symbol{"029C}}}
98  \pgfparserdef{scparser}{initiated}H%
99  {\unisc@outputexpanded{\symbol{"029C}}}
100 %% LATIN LETTER SMALL CAPITAL I
101 \pgfparserdef{scparser}{initiated}i%
102 {\unisc@outputexpanded{\symbol{"026A}}}
103 \pgfparserdef{scparser}{initiated}I%
104 {\unisc@outputexpanded{\symbol{"026A}}}
105 %% LATIN LETTER SMALL CAPITAL J
106 \pgfparserdef{scparser}{initiated}j%
107 {\unisc@outputexpanded{\symbol{"1D0A}}}
108 \pgfparserdef{scparser}{initiated}J%
109 {\unisc@outputexpanded{\symbol{"1D0A}}}
110 %% LATIN LETTER SMALL CAPITAL K
111 \pgfparserdef{scparser}{initiated}k%
112 {\unisc@outputexpanded{\symbol{"1D0B}}}
113 \pgfparserdef{scparser}{initiated}K%
114 {\unisc@outputexpanded{\symbol{"1D0B}}}
115 %% LATIN LETTER SMALL CAPITAL L
116 \pgfparserdef{scparser}{initiated}l%
117 {\unisc@outputexpanded{\symbol{"029F}}}
118 \pgfparserdef{scparser}{initiated}L%
119 {\unisc@outputexpanded{\symbol{"029F}}}
120 %% LATIN LETTER SMALL CAPITAL M
121 \pgfparserdef{scparser}{initiated}m%
122 {\unisc@outputexpanded{\symbol{"1D0D}}}
123 \pgfparserdef{scparser}{initiated}M%
124 {\unisc@outputexpanded{\symbol{"1D0D}}}
125 %% LATIN LETTER SMALL CAPITAL N
126 \pgfparserdef{scparser}{initiated}n%
127 {\unisc@outputexpanded{\symbol{"0274}}}
128 \pgfparserdef{scparser}{initiated}N%
129 {\unisc@outputexpanded{\symbol{"0274}}}
130 %% LATIN LETTER SMALL CAPITAL O
131 \pgfparserdef{scparser}{initiated}o%
132 {\unisc@outputexpanded{\symbol{"1D0F}}}
133 \pgfparserdef{scparser}{initiated}O%
134 {\unisc@outputexpanded{\symbol{"1D0F}}}
135 %% LATIN LETTER SMALL CAPITAL P
136 \pgfparserdef{scparser}{initiated}p%
137 {\unisc@outputexpanded{\symbol{"1D18}}}
138 \pgfparserdef{scparser}{initiated}P%
139 {\unisc@outputexpanded{\symbol{"1D18}}}
140 %% LATIN LETTER SMALL CAPITAL Q
141 \pgfparserdef{scparser}{initiated}q%
142 {\unisc@outputexpanded{\symbol{"A7AF}}}
143 \pgfparserdef{scparser}{initiated}Q%
144 {\unisc@outputexpanded{\symbol{"A7AF}}}
145 %% LATIN LETTER SMALL CAPITAL R

```

```

146 \pgfparserdef{scparser}{initiated}r%
147   {\unisc@outputexpanded{\symbol{"0280}}}
148 \pgfparserdef{scparser}{initiated}R%
149   {\unisc@outputexpanded{\symbol{"0280}}}
150 %% LATIN LETTER SMALL CAPITAL S
151 \pgfparserdef{scparser}{initiated}s%
152   {\unisc@outputexpanded{\symbol{"A731}}}
153 \pgfparserdef{scparser}{initiated}S%
154   {\unisc@outputexpanded{\symbol{"A731}}}
155 %% LATIN LETTER SMALL CAPITAL T
156 \pgfparserdef{scparser}{initiated}t%
157   {\unisc@outputexpanded{\symbol{"1D1B}}}
158 \pgfparserdef{scparser}{initiated}T%
159   {\unisc@outputexpanded{\symbol{"1D1B}}}
160 %% LATIN LETTER SMALL CAPITAL U
161 \pgfparserdef{scparser}{initiated}u%
162   {\unisc@outputexpanded{\symbol{"1D1C}}}
163 \pgfparserdef{scparser}{initiated}U%
164   {\unisc@outputexpanded{\symbol{"1D1C}}}
165 %% LATIN LETTER SMALL CAPITAL V
166 \pgfparserdef{scparser}{initiated}v%
167   {\unisc@outputexpanded{\symbol{"1D20}}}
168 \pgfparserdef{scparser}{initiated}V%
169   {\unisc@outputexpanded{\symbol{"1D20}}}
170 %% LATIN LETTER SMALL CAPITAL W
171 \pgfparserdef{scparser}{initiated}w%
172   {\unisc@outputexpanded{\symbol{"1D21}}}
173 \pgfparserdef{scparser}{initiated}W%
174   {\unisc@outputexpanded{\symbol{"1D21}}}
175 %% LATIN LETTER X
176 \pgfparserdef{scparser}{initiated}x{%
177   \unisc@outputexpanded{\symbol{"0078}}}%
178   \PackageWarning{unisc}{%
179     You have used the unsupported character `x' with the\MessageBreak
180     \string\textsc\space or \string\scshape\space command%
181   }%
182 }
183 \pgfparserdef{scparser}{initiated}X{%
184   \unisc@outputexpanded{\symbol{"0078}}}%
185   \PackageWarning{unisc}{%
186     You have used the unsupported character `X' in the\MessageBreak
187     argument of \string\textsc
188   }%
189 }
190 %% No Unicode number for small capital x as of now.
191 %% \textsc{X} == \textsc{x} for size-consistency.
192 %% LATIN LETTER SMALL CAPITAL Y
193 \pgfparserdef{scparser}{initiated}y%
194   {\unisc@outputexpanded{\symbol{"028F}}}
195 \pgfparserdef{scparser}{initiated}Y%
196   {\unisc@outputexpanded{\symbol{"028F}}}
197 %% LATIN LETTER SMALL CAPITAL Z
198 \pgfparserdef{scparser}{initiated}z%
199   {\unisc@outputexpanded{\symbol{"1D22}}}

```

```

200 \pgfparserdef{scparser}{initiated}Z%
201   {\unisc@outputexpanded{\symbol{"1D22}}}
202 %% BLANK SPACE
203 \pgfparserdef{scparser}{initiated}{blank space}%
204   {\unisc@outputexpanded{ }}
205 %% END OF INPUT CHARACTERS
206 \pgfparserdef{final}{scparser}%
207   {\expanded{\unisc@outputcontainer}}
Renew the definitions of \textsc & \scshape commands.
208 \AddToHook{begindocument/end}{%
209   \RenewDocumentCommand\scshape{ }{%
210     \ifdefined\unisc@initiated
211       \PackageError{unisc}{Nested use not allowed}{%
212         \string\unisc@initiated\space already defined,
213         this shouldn't happen. Aborting.%
214       }%
215       \expandafter\@gobbletwo
216     \else
217       \global\let\unisc@outputcontainer\@empty
218     \fi
219     \pgfparserparse{scparser}%
220   }
221   \RenewDocumentCommand\textsc{ m }{%
222     \begingroup\scshape #1\endgroup
223   }%
224 }
225 \end{package}

```

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