Case changing: 
LaTeX reaches Unicodeland

23rd July 2022
Hardcopy versions of the Unicode Standard have been among the most crucial and most-heavily used reference books in my personal library for years. Unicode allows me to celebrate the fact that computer science is a vast worldwide collaboration. And Unicode is perhaps the best tool I know to help bring understanding between people of different cultures.

Donald E. Knuth
Unicode case terms

Lowercasing Convert all code points to their lowercase mapping if defined, otherwise leave alone; apply context and language rules

Uppercasing Convert all code points to their uppercase mapping if defined, otherwise leave alone; apply context and language rules

Titlecasing Convert the first letter to (almost always) uppercase and the rest to lowercase; some code points have a different upper- and titlecase mapping; complicated by language conventions

Case folding Remove case information for non-text uses: similar to lower casing but not identical; no context/language dependence
Case changing: expl3 approach

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- Implement expandably
Lessons from textcase

- Auto-escape math mode
- Handle \cite, \label, \ref, ...
- \NoCaseChange
Time to update . . .

- expl3 code now supports 8-bit input
- Wider use of \texttt{\textbackslash protected}, particularly for actives
- Full Unicode range without needing extra support
- Language-dependent support a possible:
  probably for Fall ’22
Something old, something new

Retained

- `\MakeUppercase`
- `\MakeLowercase`
- `\NoCaseChange`
Something old, something new

Retained
- \MakeUppercase
- \MakeLowercase
- \NoCaseChange

Added
- \MakeTitlecase
- \CaseSwitch
- \AddToNoCaseChangeList
- \DeclareCaseChangeEquivalent