#### ustrnormalize() — Normalize Unicode string

Description Syntax Remarks and examples Conformability Diagnostics Also see

### **Description**

ustrnormalize (s, norm) normalizes Unicode string s to one of the five normalization forms specified by norm.

When s is not a scalar, the function returns element-by-element results.

# **Syntax**

string matrix ustrnormalize(string matrix s, string matrix norm)

### Remarks and examples

Unicode normalization removes the Unicode string differences caused by Unicode character equivalence. For example, the character "i" with two dots as in naïve can be represented either by a single Unicode code point, \u00ef, or by two code points, \u0069, which is the regular "i", and \u0008, which is the diaeresis character. The code point \u00ef and the code-point sequence \u0069\u00008 are considered Unicode equivalent. According to the Unicode standard, they should be treated as the same single character in Unicode string operations, such as display, comparison, and selection. But Stata does not support multiple code-point characters; each code point is considered a single Unicode character. Hence, \u00f3\u00069\u000008 is displayed as two characters in the Results window. ustrnormalize() can be used to deal with this issue by normalizing \u0069\u00008 to its canonical equivalent composited \NFC form \u00ef.

*norm* must be one of nfc, nfd, nfkc, nfkd, or nfkcc. The function returns an empty string for any other value of *norm*.

nfc specifies Normalization Form C, which normalizes decomposed Unicode code points to canonical composited form. nfd specifies Normalization Form D, which normalizes composited Unicode code points to canonical decomposed form. nfc and nfd produce canonical equivalent form. nfkc and nfkd are similar to nfc and nfd but produce compatibility equivalent form. nfkcc is similar to nfkc but also handles case folding. For details, see <a href="http://unicode.org/reports/tr15/">http://unicode.org/reports/tr15/</a>.

# Conformability

```
\begin{array}{ll} \texttt{ustrnormalize}(s, norm): \\ s: & r \times c \\ norm: & r \times c \text{ or } 1 \times 1 \\ result: & r \times c \end{array}
```

## **Diagnostics**

None.

#### Also see

[M-4] **String** — String manipulation functions

[U] 12.4.2 Handling Unicode strings

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