

Chained Contextual Substitution and Positioning

The following demonstrates a complex combination of multiple glyph substitution and glyph positioning operations. When the ALEF (logically) precedes WAW and REH graphemes, there is no special substitution or positioning (see rightmost letter groups). However, when ALEF (logically) follows WAW and REH graphemes, the latter are (pair) kerned so that the trail of their stroke lies under ALEF. When ALEF is combined with HAMZA BELOW, this kerning would normally cause the trail of the stroke of WAW and REH to overlap the HAMZA BELOW. In order to resolve this, the font uses the GSUB 'ccmp' feature to decompose ALEF WITH HAMZA BELOW into its constituent parts. The HAMZA is then further adjusted twice by the GPOS 'mark' feature to (1) attach the HAMZA BELOW mark to the ALEF base glyph, and then (2) to lower the HAMZA BELOW mark (due to the presence of the WAW or REH allograph) to prevent intersection (see leftmost letter groups).

The following example is based on the Microsoft Simplified Arabic 5.0 font. Other fonts may have varying results depending upon whether they contain the necessary GSUB and GPOS tables to accomplish these adjustments.

إِوِ وَاِ

إِرِ رَاِ

إِزِ زَاِ

إِوِ وَاِ

إِزِ زَاِ