#### **7.3.2.7 Sample adaptive offset unit VLC syntax**

|  |  |
| --- | --- |
| sao\_unit\_vlc( rx, ry, cIdx ) { | Descriptor |
| if( !sao\_repeat\_row\_flag[ cIdx ] ) { |  |
| if( rx = = 0 | | saoRun[ cIdx ][ rx ][ ry ] < 0 ) { |  |
|  |  |
| **sao\_run** | u(v) |
| saoRun[ cIdx ][ rx ][ ry ] = sao\_run |  |
|  |  |
|  |  |
|  |  |
|  |  |
| if( ry > 0 ) |  |
| **sao\_merge\_up\_flag** | u(1) |
| if( !sao\_merge\_up\_flag ) |  |
| sao\_offset\_vlc( rx, ry, cIdx) |  |
| } |  |
| saoRun[ cIdx ][ rx + 1 ][ ry ] = saoRun[ cIdx ][ rx ][ ry ] − 1 |  |
| } else |  |
| saoRun[ cIdx ][ rx ][ ry ] = saoRun[ cIdx ][ rx ][ ry − 1 ] |  |
| } |  |

#### **7.4.2.7 Sample adaptive offset unit VLC semantics**

The number of times the SAO parameters corresponding to a coding treeblock are repeated for subsequent coding treeblocks in the same row is represented by saoRun[ cIdx ][ rx ][ ry ]. The array index cIdx specifies the colour component; cIdx is equal to 0 for luma, equal to 1 for Cb, and equal to 2 for Cr. The array indices rx and ry specify the location ( rx, ry ) of the considered coding treeblock relative to the top-left coding treeblock of the picture.

**sao\_run** specifies the saoRun of current coding treeblock. When saoRun is greater than or equal to 0, the syntax elements in sao\_offset\_vlc() are derived from the corresponding syntax elements of the left coding treeblock. The length of the sao\_run syntax element is Ceil( Log2(sao\_num\_lcu\_in\_width\_minus1 − rx + 2) ) bits.

**sao\_merge\_up\_flag** equal to 1 specifies that the syntax elements in sao\_offset\_vlc() are derived from the corresponding syntax elements of the above coding treeblock; equal to 0 specifies that the syntax elements in sao\_offset\_vlc() are not derived from the corresponding syntax elements of the above coding treeblock. When sao\_merge\_up\_flag is not present, sao\_merge\_up\_flag is inferred to be equal to 0.