

Parsing comma separated values (Tcl recipe)

(from: <http://code.activestate.com/recipes/65433-parsing-comma-separated-values/>)

How to parse lines containing comma-separated values.

Tcl, 35 lines

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```
proc csv2list {str {sepChar ,}} {
    1     regsub -all {(\\A\\\"|\\\"\\Z)} $str \\0 str
    2     set str [string map [list $sepChar\\\"\\\" \"$sepChar\\0\" \\\"\\\"\\\"$sepChar
    3 \\\"\\0$sepChar \\\"\\\" \\\" \\\" \\0 ] $str]
    4     set end 0
    5     while {[regexp -indices -start $end {(\\0)[^\\0]*(\\0)} $str -&gt; start
    6 end]} {
    7         set start [lindex $start 0]
    7         set end    [lindex $end 0]
    8         set range [string range $str $start $end]
    9         set first [string first $sepChar $range]
    10        if {$first &gt;= 0} {
    11            set str [string replace $str $start $end [string map [list $sepChar
    12 \\1] $range]]
    13        }
    14        incr end
    15    }
    16    set str [string map [list $sepChar \\0 \\1 $sepChar \\0 {} ] $str]
    17    return [split $str \\0]
    18 }
    19 }
    20
    21 proc list2csv {list {sepChar ,}} {
    22     set out ""
    23     foreach l $list {
    24         set sep {}
    25         foreach val $l {
    26             if {[string match "*\\[\\\"$sepChar\\]*" $val]} {
    27                 append out $sep\\\"[string map [list \\\" \\\"\\\"] $val]\\\"
    28             } else {
    29                 append out $sep$val
    30             }
    31             set sep $sepChar
    32         }
    33         append out \\n
    34     }
    35     return $out
    }
```

A record of a csv file (comma-separated values, as exported e.g. by Excel) is a set of ascii values separated by ",", (for other languages it may be ";" however, although this is not important for this case).

If a value contains itself the separator ",", then it (the value) is put between "".

If a value contains ", it is replaced by "".

The following record for example is parsed as follows:

<pre>123,"123,521.2","Mary says ""Hello, I am Mary""</pre>- 123 - 123,521.2 - Mary says "Hello, I am Mary"