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procedure LLTabularParsing (ts, LLT, P)
ts is a token stream with peek and pop operations, LLT is an LL(1)
parsing table as described by the text.
returns a parse tree of the sentence in ts_{t}
  or FAILS when ts does not emit a sentence belonging to the grammar
  deriving LLT.
Recall notationally: S is the starting symbol (goal) of the grammar,
\Sigma_{\$} = \Sigma + \{\$\} are the terminals of the language augmented by $,
N are the non-terminals and P is the production
rule list of the grammar (indexed by entries of LLT).
let T be a tree with an initial root node Root
let Current be a reference to a node of T
let K be a stack
Current \leftarrow Root
push S onto K
while (|K| > 0) do (
  x \leftarrow K.pop()
  if ( x \in N ) then (
    # Next token may not predict a p \in P
    p \leftarrow P[LLT[x][ts.peek()]] or FAIL
    push Marker onto K
    R \leftarrow RHS of p
    in reverse order, push the elements of R onto K
    let n \leftarrow new tree node for non-terminal x
    append n as the rightmost child of Current
    Current ← rightmost child of Current
  ) else if ( x \in \Sigma_{\$} OR x is \lambda ) then (
    if ( x \in \Sigma_{\$} ) then (
       # Next token must be what is expected
       if (x \neq ts.peek()) then FAIL
       # Update x with the token type and source value from ts
      x \leftarrow ts.pop()
    )
    append x as the rightmost child of Current
  ) else if ( x is a Marker ) then (
    Current \leftarrow Current.parent
  )
)
\# Current now points to Root which has a singular child S
return Root's only child
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