OPEG Cheat Sheet

Characters, NonTerminal	
''	The empty
'a'	The character a
'ab'	The string ab
[ab-d]	One character of: a, b, c, d
01xxxxxx	Bit pattern
.	Any character
A	Nonterminal

PEG Operators	
*e**	0 or more
e+	1 or more
e?	0 or 1
&e	Positive Lookahead
!e	Negative Lookahead
e e'	Sequencing
e / e'	Ordered choice

Conditional Parsing	
<if *Flag*>	Test *Flag*
<on *Flag e*>	Match *e* on Flag=true
<on !*Flag e*>	Match *e* on Flag=false

Tree Construction	
{ }	Capturing node
#Tag	Tagging
$(*e*)	Unlabeled subnode
e {$ *e'*}	Left-folding node
$*label*(*e*)	Labeled subnode
e {$*label e'* }	Left-folding labeled node
`` `abc` ``	Value

Context Senstive Pattern (Symbol table)	
<symbol *A*>	Define symbol
<exists *A*>	Exists symbol
<is *A*>	Equals symbol
<isa *A*>	Contains symbol
<match *A*>	Match symbol
<block *e*>	Nested symbol local scope
<local *A e*>	Isolated symbol scope

Tree Construction Example

Value = { [A-Z]+ #Value}

BTree = {$Value ',' $Value #BTree}

List = {$Value (',' $Value)* #List}

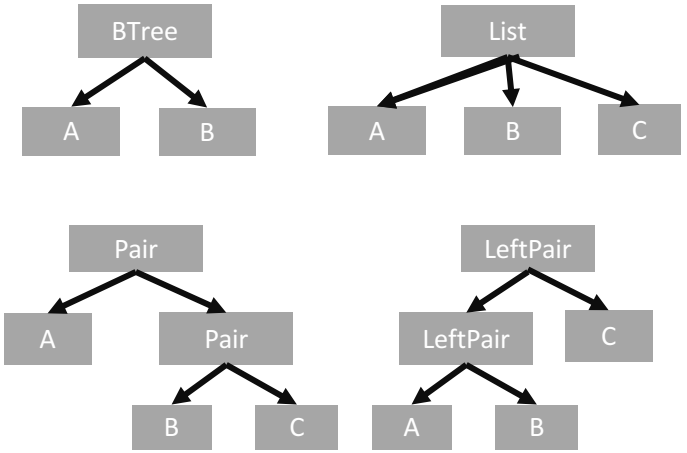
Pair = {$Value ',' $Pair #Pair} / Value

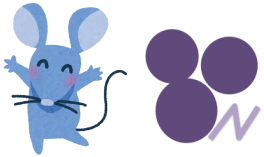
LeftPair = Value {$ (',' $Value) #Pair}*

Labeled-subnode version

$right(Value) $left(Pair)

Input: A, B, C





Kimio Kuramitsu. 2016. Nez: practical open grammar language. In *Proceedings of the 2016 ACM International Symposium on New Ideas, New Paradigms, and Reflections on Programming and Software* (Onward! 2016). ACM, New York, NY, USA, 29-42. DOI: https://doi.org/10.1145/2986012.2986019