Specifying ParseNodes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ParseNode Type | Prefix character | End identifier | Contains | Rank | Permitted only once within a single branch |
| ParseFile | Not in code | Not in code | filename | 1 | True |
| ParseSV | "\SV" | “\SVX” |  | 2 | True |
| ParseSVX | "\SVX" | New line | Version | 2 | True |
| ParseHier | ">", | New line | Hierarchy identifier, dimensions | 3, 5, 7, 9 | False |
| ParsePipe | "|", | New line | Pipe identifier, Base clock | 4 | True |
| ParseStage | "@", | New line | Stage identifier, stage number | 6 | True |
| ParseWhen | "?", | New line | Clock gating condition, state signal use | 8 | False |
| ParseExpression  (Assignment) | "$" , "\*" | “;” | State or pipe signal uses and assignments | 10 | True |
| ParseExpression  (Macro) | "`" | Parentheses | State or pipe signal uses and assignments | 10 | True |

Specifying Identifiers within ParseNodes

|**issue ^clk=U //Pipeline issue**

>**inst**[**3**:**0**]

@**0**

$**valid** = …;

?**valid**

@**1**

$**raw\_inst**[**28**:**0**] = ..;

$**mem\_op** = $**raw\_inst**[**28**:**27**] == 2’b01;

@**4**

$**sigA** = $**mem\_op**;

?**mem\_op**

@**3**

$**mem\_addr**[**50**:**0**] = $**op\_a** + $**raw\_inst**[**15**:**0**];

@**5**

$**sigB** = $**mem\_addr** && $**raw\_inst**;

$mem\_addr[50:0] = $op\_a + //comment

$raw\_inst[15:0];

mem\_addr\_UX[50:0] = op\_a\_UX + //comment

raw\_inst\_UX[15:0];

Identifier Class

* ParseNode parseNode
* int stringStartingIndex, stringEndingIndex
* Prefix prefix, Boolean prefixFoundFlag
* int value, Boolean evaluated
* properties: flagLowerCase, flagUpperCase, flagNumeric, flagMisc
* \*parentheses tracker

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ParseNode | Prefix | Terminated by |  |  |  |
| ParsePipe | ‘|’ | Any non-alphabetic, non-numeric, non-\_ |  |  |  |
| ParseHier | ‘>’ | Any non-alphabetic, non-numeric, non-\_ |  |  |  |
| ParseWhen | ‘?’ | Any non-alphabetic, non-numeric, non-\_ |  |  |  |
| ParseStage | ‘@’ | Any non-alphabetic, non-numeric, non-\_ |  |  |  |
| Pipesignal | ‘$’, ‘\*’ | Any non-alphabetic, non-numeric, non-\_ |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| EndVectorIndex | ‘[‘ | ‘:’, ‘]’ |  |  |  |
| StartVectorIndex | ‘:’ | ‘]’ |  |  |  |
| Alignment | ‘#’ | Any non-alphabetic, non-numeric, non-\_ |  |  |  |
|  |  |  |  |  |  |

Changes: Merge elements of Parser scanner() method, Line class into ParseNode class.

ParseNode are used as temporary objects for gather information about the lines of code being parsed. They are ultimately used in constructors to generated specific versions of ParseNode(ParseSVX, ParsePipeline, etc).

Proposed Changes:

Merge Parser into ParseFile