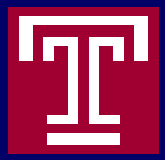

Verilog Operators

EE 335

Advanced Processor Systems

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Arithmetic Operators

Symbol	Operator
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus

*** Arguments -> Pair of operands, Result-> Binary word ***

Reduction Operators

Symbol	Operator
&	AND
~&	NAND
|	OR
~|	NOR
^	XOR (Exclusive OR)
~^ ,^~	XNOR

*** Argument can be single operand or pair of operands, result will be a bit or binary word respectively ***

Logical Operators

Symbol	Operator
!	Logical negation
&&	Logical AND
||	Logical OR
==	Logical equality
!=	Logical inequality
===	Case equality
!==	Case inequality

*** Argument -> Pair of operands, Result -> Boolean value ***

Used with or in conditional statements

Relational Operators

Symbol	Operator
<	Less than
<=	Less than or equal to
>	Greater than
>=	Greater than or equal to

*** Arguments -> Pair of operands, Result -> Boolean value ***

Shift & Conditional Operators

Symbol	Operator
<<	Left shift
>>	Right shift

Example: temp << n ;

*** Argument -> Single operand, Result -> Binary word ***

X = (a==b) ? ‘h4 : ‘h2 ;

*** Argument -> Three operand, Result -> Expression ***

Concatenation Operator

Forms single word from two or more words

- if x=1001 and y =0011

  {x , y} = 10010011
- { 4 { x }} ={ x, x, x, x } =1001100110011001
- {1100, { 01, 10}} = 11000110