Bitwise Operators

Bitwise operators are used to perform operations at binary digit level. These operators are not commonly used and are used only in special applications where optimized use of storage is required.

Operator	Meaning
&	Bitwise AND
|	Bitwise OR
^	Bitwise exclusive OR / Bitwise XOR
~	Bitwise inversion (one's complement)
<<	Shifts the bits to left / Bitwise Left Shift
>>	Shifts the bits to right / Bitwise Right Shift

Bitwise AND &

Operand 1	Operand 2	Result (operand1 & operand2)
True 1	True 1	True 1
True 1	False 0	False 0
False 0	True 1	False 0
False 0	False 0	False 0

a = 10 0 0 0 0 1 0 1 0
b = 15 0 0 0 0 1 1 1 1

Bitwise OR |

Operand 1	Operand 2	Result (operand1 | operand2)
True 1	True 1	True 1
True 1	False 0	True 1
False 0	True 1	True 1
False 0	False 0	False 0

a = 10 0 0 0 0 1 0 1 0
b = 15 0 0 0 0 1 1 1 1

Bitwise XOR ^

Operand 1	Operand 2	Result (operand1 **^** operand2)
True 1	True 1	False 0
True 1	False 0	True 1
False 0	True 1	True 1
False 0	False 0	False 0

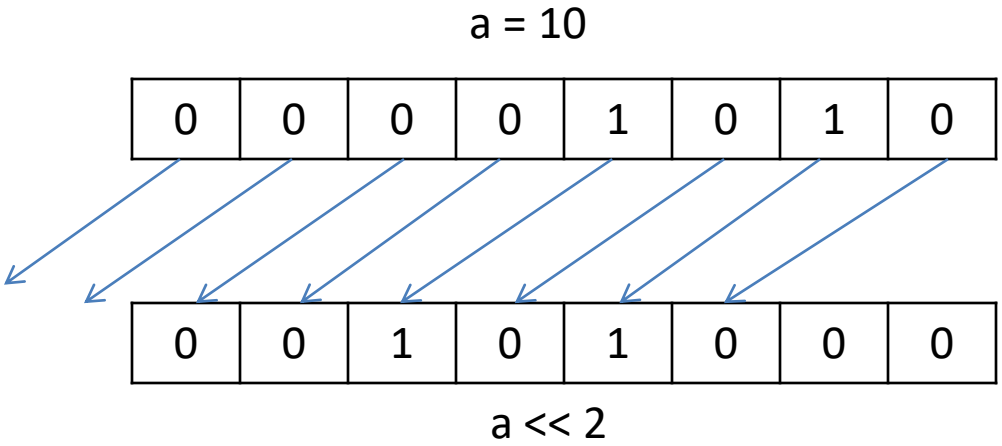
a = 10 0 0 0 0 1 0 1 0
b = 15 0 0 0 0 1 1 1 1

Bitwise NOT ~

Operand	Result (~ operand)
True 1	False 0
False 0	True 1

a = 10 0 0 0 0 1 0 1 0

Bitwise Left Shift <<



Bitwise Right Shift >>