6.1 Manipulation

[0 1 0 1 0 1 0 1] → Complete system representation
[0 0 0 0 1 1 1 1] → incomplete representation

+, −, /, *, %

AND & 1 → 1 all both lits are 1

OR | 1 → 1 any 1 one bits is 1

NOT ~ → flip one bit ~0 → 1 ~1 → 0

XOR ^ → when 1 one bit one 1-bit (different bits)

LEFT SHIFT << → left shift one bit multiply by 2

RIGHT SHIFT >>

AND operator

		&	&=
0	0	→ 0	→ 0
1	0	→ 0	→ 0
0	1	→ 0	→ 0
1	1	→ 1	→ 1

OR operator

0	0	→ 0
1	0	→ 1
0	1	→ 1
1	1	→ 1

XOR operator

0	0	→ 0
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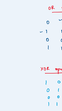
0	1	→ 1
1	1	→ 0

LEFT SHIFT



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AND & 1 → 1 both lits are 1

OR | 1 → 1 any 1 one bits is 1

NOT ~ → flip one bit ~0 → 1 ~1 → 0

XOR ^ → when 1 one bit one 1-bit (different bits)

LEFT SHIFT << → left shift one bit multiply by 2

RIGHT SHIFT >>

AND operator

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0	0	→ 0	→ 0
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0	1	→ 0	→ 0
1	1	→ 1	→ 1

OR operator

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1	1	→ 1

XOR operator

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