

4b - Bitwise Operator

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① AND (&) → multiply

② OR (||) → addition

③ XOR (^) → 1 if both variables are same (both 0 or both 1). Otherwise 0.

④ Left shift (<<) → shift by x & fill with 0 of right.

$x =$ 0 1 0 0 1 0 0 1 1 1 0 0 1 0 1 1

$x \ll 3 =$ 0 1 0 0 1 1 1 0 0 1 0 1 1 0 0 0

3 spots filled by zeros.

⑤ Right shift (>>) → shift right by x.

- If no. is unsigned then all filled by zero
- If signed then fill with either zero or the signed bits.

⑥ ! True = false ; ! false = True

⑦ ! x = 0 where x is any no. other than 0

eg: ! 10 = 0

h. 10 = 1