



**Hexadecimal**

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**All 1's**

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**All 1's unsigned**

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**Turn off bits (leaving remainder untouched)**

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**Turn on bits**

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**Create a mask with 0's in the rightmost n bits**

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**Create a mask with 0's in the leftmost n bits**

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**Create a mask with 1's in the rightmost n bits**

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**Create a mask with 1's in the leftmost n bits**

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**Move a range field to the right end of a word**

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**Set a bit**

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**Clear a bit**

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**Toggle a bit**

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**Test a bit**

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**Naive left shift with rotate**

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**Safe left shift with rotate**

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**Drop lowest set bit**

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**Clear least significant bit**

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**Swap bits i & j**

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**Count number of set bits (Hamming Weight for bit strings or popcount/population count)**

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**Sign of an int**

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**Detect if integers have opposite signs**

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**Absolute value of an int**

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**Find the minimum**

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**Find the maximum**

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**Is power of two**

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**Absolute value of an int**

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**Round up to next power of 2**

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**Properties of XOR**

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**Identity -> a number XOR'ed with 0 returns the number**

**Bitwise negation**

**Inverting the identity**

**Associativity**

**Commutativity**

**Swap**

**Bitwise XOR equivalent**

**One's complement**

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**Two's complement**

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