TIME SAVERS!

x & (x-1) will clear the lowest set bit of x
x & ~(x-1) extracts the lowest set bit of x (all others are clear). Pretty patterns when applied to a linear sequence.
x & (x + (1 << n)) = x, with the run of set bits (possibly length 0) starting at bit n cleared.
x & ~(x + (1 << n)) = the run of set bits (possibly length 0) in x, starting at bit n.
x | (x + 1) = x with the lowest cleared bit set.
x | ~(x + 1) = extracts the lowest cleared bit of x (all others are set).
x | (x - (1 << n)) = x, with the run of cleared bits (possibly length 0) starting at bit n set.
x | ~(x - (1 << n)) = the lowest run of cleared bits (possibly length 0) in x, starting at bit n are the only clear bits.

Geeks

Find the element that appears once when every other element appears thrice
http://www.geeksforgeeks.org/find-the-element-that-appears-once/

Count total no of set bits in all numbers from 1 to n
http://www.geeksforgeeks.org/count-total-set-bits-in-all-numbers-from-1-to-n/

Add two numbers
http://www.geeksforgeeks.org/add-two-numbers-without-using-arithmetic-operators/

Next higher number with same number of set bits
http://www.geeksforgeeks.org/next-higher-number-with-same-number-of-set-bits/

Reverse bits
http://www.geeksforgeeks.org/write-an-efficient-c-program-to-reverse-bits-of-a-number/

http://www.geeksforgeeks.org/next-power-of-2/

http://www.geeksforgeeks.org/divisibility-9-using-bitwise-operators/

TO DO

Immediate smaller number

http://www.geeksforgeeks.org/count-total-set-bits-in-all-numbers-from-1-to-n/
http://www.geeksforgeeks.org/swap-bits-in-a-given-number/

http://www.geeksforgeeks.org/smallest-of-three-integers-without-comparison-operators/
http://www.geeksforgeeks.org/program-to-count-number-of-set-bits-in-an-big-array/
http://www.geeksforgeeks.org/compute-the-integer-absolute-value-abs-without-branching/
http://www.geeksforgeeks.org/divide-and-conquer-set-2-karatsuba-algorithm-for-fast-multiplication/