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int bittoggle(int num, int pos)
{
    return num ^ (1 << pos);
}

int bits_to_flip(int a, int b) {
    int count = 0;
    for (int i=0; i<32; i++) {
        if ((a & (1 << i)) != (b & (1 << i))) {
            count += 1;
        }
    }
    return count;
}

int cmp_bits(int a, int b) {
    int a_count = 0;
    int b_count = 0;
    for (int i=0; i<32; i++) {
        if ((a & (1 << i)) != 0) {
            a_count += 1;
        }
        if ((b & (1 << i)) != 0) {
            b_count += 1;
        }
    }
    return a_count - b_count;
}

unsigned char reverse_bits(unsigned char v)
{
    unsigned char r = 0;           // Start with empty result
    for (int i=0; i < 8; i++) {    // For each of 8 bit indexes
        unsigned char t = (v >> i) & 1; // Get i-th bit
        t = (t << (7-i));          // Shift to new pos
        r = r | t;                 // Or it in
    }
    return r;
}

```