**Bit magic**

Set bit A |= 1 << bit

Clear bit A &= ~(1 << bit)

Test bit (A & 1 << bit) != 0

Toggle bit A ^ (1<<bit)

Set subtraction A & ~B

Set negation ALL\_BITS ^ A

Value with only last set bit x & ~(x - 1)

Check if n is power of 2 !(n&(n-1)) except n=0

Count trailing zeros \_\_builtin\_ctz(n)

Count leading zeros \_\_builtin\_clz(n)

total set bits \_\_builtin\_popcount(n)

Position of rightmost set bit log2(n&-n)

Turn off rightmost set bit n&(n-1)