Tute 7

COMP1521 24T2

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content

- 2's complement
- ieee 754
- more bitwise

2's complement

encode/decode

if msb is 0, same as normal conversion
if msb is 1, negate and add 1.

the same forwards and backwards.

IEEE-754

$$(-1)^{sign} \times (1 + frac) \times 2^{exp-127}$$

sign is the MSB/1st bit

exp the 8 bits following the sign bit (as a value in the range 0..255)

frac the least significant 23 bits, interpretted as negative powers of 2. So 2^{-1}, 2^{-2}, ...

Good IEE-754 Calculator: pwww.h-schmidt.net/FloatConverter/IEEE754.html