Tute 7

COMP1521 24T2

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content

- 2's complement
- ieee 754
- more bitwise

2's complement

binary to decimal

if msb is 0, convert to decimal as normal.
if msb is 1, $-1 \times (\ binary + 1)$, then convert to decimal

decimal to binary

if positive, convert to binary as normal
if negative, negate and add 1, the convert to binary.

IEE-754

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

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

frac is determined by the least significant 23 bits, negative 2nd powers

https://www.h-schmidt.net/FloatConverter/IEEE754.html