과학적 표기법
Scientific Notations

$m \times 10^n$

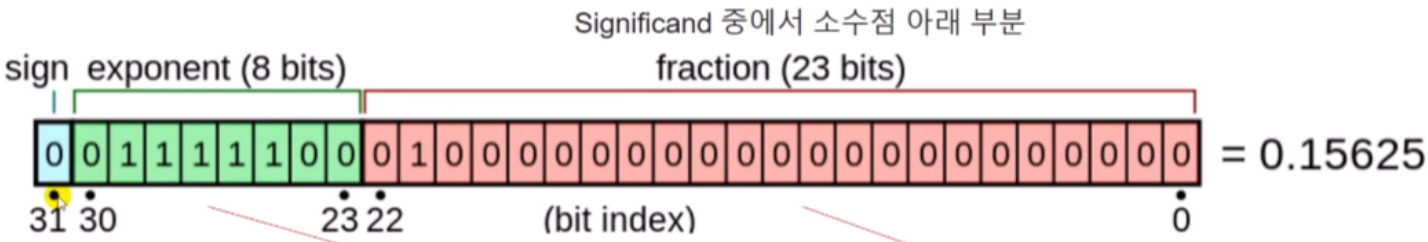
m : significand ~~(or mantissa)~~
n : exponent

$$123.45 = 12345 \times 10^{-2} = 1.2345 \times 10^{+2}$$

유효숫자 5개 $1.2345 \times 10^{+2}$
유효숫자 6개 $1.23450 \times 10^{+2}$

Modified normalized form : $1.0 \leq m \leq 10$
True normalized form : $0.1 \leq m \leq 1.0$
Normalized significand : $1.\square\square\square\square \times 2^{\Delta}$
Normed significand : $0.\square\square\square\square$

4 바이트(32비트) 부동소수점수



$$(+1) \times 2^{(124-127)} \times (1 + 2^{-2})$$
$$= +0.125 \times 1.25$$
$$= +0.15625$$

4 바이트 정수 범위

$$-2,147,483,648 \sim 2,147,438,647$$

$$\text{대략 } -2.14 \times 10^9 \sim 2.14 \times 10^9$$

4 바이트 부동소수점수 범위

$$\text{대략 } -3.4 \times 10^{38} \sim 3.4 \times 10^{38}$$

10진수 유효숫자 6개