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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| S | (msb) Exponent (lsb) | | | | | | | | (msb) Fraction (lsb) | | | | | | | | | | | | | | | | | | | | | | |

1 bit 8 bits 23 bits

Floating Point Form: (-1)S x F x 2E

S = sign of FP (1 being negative, 0 being positive)

F = value in the fraction field

E = value in the exponent field

Yes

No

Normalize?

Round the significand to the appropriate number of bits

Normalize the sum. Shift right to increment or Shift left to decrement the exponent.

Add significands

Compare the exponents of the two numbers: shift the smaller number to the right until its exponent matches the larger exponent.