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Step 1

Convert decimal binary

2	100
2	50 - 0
2	25 - 0
2	12 - 1
2	6 - 0
2	3 - 0
	1 - 1

Number = 100.875

$$(100)_{10} = (1100100)_2$$

For fraction part

$$\begin{aligned} .875 \times 2 &= 1.750 \\ .75 \times 2 &= 1.5 \\ .5 \times 2 &= 1 \end{aligned}$$

integer	decimal
1	0.750
1	0.5
1	

$$(0.875)_{10} = (0.111)_2$$

$$(100.875)_{10} = 1100100.111$$

Step 2

Finding exponent

$$1100100.111$$

$$\text{exponent} = 6$$

Biased exponent $= 6 + 127$
 $= 133$

2	133
2	66-1
2	33-0
2	16-1
2	8-0
2	4-0
2	2-0
1	0

Step 3

Finding Mantissa

mantissa = 100100111000000000000000

0 | 10000101 | 100100111000000000000000

↓
sign

↓
exponent

↓
mantissa