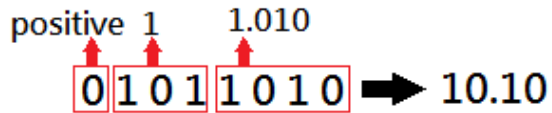


Homework 3 Answer

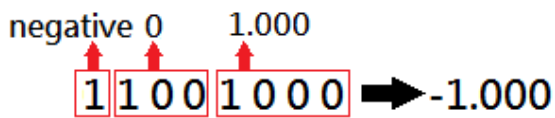
1. a. 3.25 b. 4.3125 c. 0.8125 d. 1 e. 2.125

2. a. 101.01 b. 0.0001 c. 111.111 d. 1.11 e. 110.101

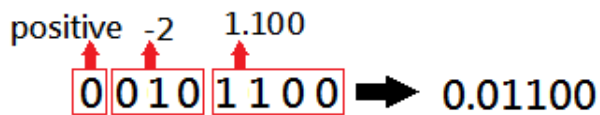
3. a.



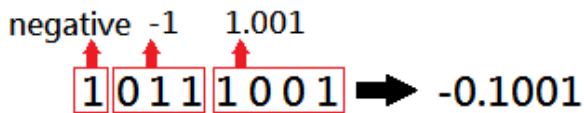
b.



c.



d.



4. a. $\frac{1}{2} = 0.1_b = 1.000 \times 2^{-1} \rightarrow 0\ 011\ 1000$

b. $7\frac{1}{2} = 111.1_b = 1.111 \times 2^2 \rightarrow 0\ 110\ 1111$

c. $-3\frac{3}{4} = -11.11_b = -1.111 \times 2^1 \rightarrow 1\ 101\ 1111$

d. $\frac{5}{32} = 0.00101_b = 1.010 \times 2^{-3} \rightarrow 0\ 001\ 1010$

e. $\frac{31}{32} = 0.11111_b = 1.1111 \times 2^{-1} \rightarrow 0\ 011\ 1111 \leftarrow \text{truncation error}$