

- Q) Represent 8 bit numbers
 in (a) signed Magnitude
 (b) signed one's complement
 (c) signed 2's complement

1) -22

(a) -22 = 10010110
 =

$$\begin{array}{r} 2 \overline{) 22} \\ 2 \overline{) 110} \\ 2 \overline{) 51} \\ 2 \overline{) 21} \\ \hline 10 \end{array}$$

(b) ~~10010110~~

1's complement = 101101001

(c) 2's complement = 101101001

$$\begin{array}{r} 101101001 \\ + 1 \\ \hline 101101010 \\ = \end{array}$$

2) -55

(a) 10110111

(b) 1's complement = 101001000

$$\begin{array}{r} 2 \overline{) 55} \\ 2 \overline{) 27} \\ 2 \overline{) 131} \\ 2 \overline{) 65} \\ 2 \overline{) 32} \\ \hline 1 \end{array}$$

2's complement =

$$\begin{array}{r} 101001000 \\ \underline{101001000} \\ 11 \end{array}$$

b) -34

a) = 10100010

$$\begin{array}{r} 34 \\ \times 2 \\ \hline 68 \\ \times 2 \\ \hline 136 \\ \times 2 \\ \hline 272 \\ \times 2 \\ \hline 544 \\ \times 2 \\ \hline 1088 \end{array}$$

~~1's complement~~

~~$$\begin{array}{r} 10100010 \\ \underline{10100010} \\ 10100011 \end{array}$$~~

b) 1's complement = 101011101

c) 2's complement = 101011101

~~$$101011101$$~~

*) -67

(a) 11000011
=

b) 1's complement

= 10011100

c) 2's complement

10011100

10011101

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