

Table 1-3: Sign and Magnitude Binary Numbers

Sign	2^2	2^1	2^0	Decimal
0	1	1	1	+7
0	1	1	0	+6
0	1	0	1	+5
0	1	0	0	+4
0	0	1	1	+3
0	0	1	0	+2
0	0	0	1	+1
0	0	0	0	+0
1	0	0	0	-0
1	0	0	1	-1
1	0	1	0	-2
1	0	1	1	-3
1	1	0	0	-4
1	1	0	1	-5
1	1	1	0	-6
1	1	1	1	-7

Let's say that we want to add +1 to -1. We'd expect sign and magnitude representation we get a different Figure 1-10.

$$\begin{array}{rcccc|c}
 & 0 & 0 & 0 & 1 & +1 \\
 + & 1 & 0 & 0 & 1 & -1 \\
 \hline
 & 1 & 0 & 1 & 0 & -2
 \end{array}$$

Figure 1-10: Sign and magnitude addition