

RESTA USANDO COMPLEMENTO A 2

0	00000
1	00001
2	00100
3	00111
4	01000
5	01011
6	01100
7	01111

$$\begin{array}{r}
 \text{COMPLEMENTO} \\
 -1 = \begin{array}{r} 1 \\ 1 \\ 1 \\ 0 \end{array} \rightarrow +\begin{array}{r} 0 \\ 0 \\ 0 \\ 0 \end{array} \\
 \hline
 \begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 -1 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 \hline
 \begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 -2 = \boxed{\begin{array}{r} 1 \\ 1 \\ 1 \\ 0 \end{array}} -2 \\
 \hline
 \begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 -2 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 0 \end{array} \\
 \hline
 \begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 -3 = \boxed{\begin{array}{r} 1 \\ 1 \\ 1 \\ 0 \\ 1 \end{array}} -3
 \end{array}$$

$$\begin{array}{r}
 -3 = \begin{array}{r} 1 \\ 1 \\ 1 \\ 0 \\ 1 \end{array} \\
 -1 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 \hline
 -4 = \boxed{\begin{array}{r} 1 \\ 1 \\ 1 \\ 0 \\ 0 \end{array}} -4
 \end{array}$$

$$\begin{array}{r}
 -4 = +\begin{array}{r} 1 \\ 1 \\ 0 \\ 0 \end{array} \\
 -1 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 \hline
 -5 = \boxed{\begin{array}{r} 1 \\ 1 \\ 0 \\ 1 \\ 1 \end{array}} -5
 \end{array}$$

$$\begin{array}{r}
 -5 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 -1 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 \hline
 -6 = \boxed{\begin{array}{r} 1 \\ 1 \\ 0 \\ 1 \\ 0 \end{array}} -6
 \end{array}$$

$$\begin{array}{r}
 -6 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 0 \\ 0 \end{array} \\
 -1 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 \hline
 -7 = \boxed{\begin{array}{r} 1 \\ 1 \\ 0 \\ 0 \\ 1 \end{array}} -7
 \end{array}$$

$$\begin{array}{r}
 -7 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 0 \\ 1 \end{array} \\
 -1 = +\begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \end{array} \\
 \hline
 -8 = \boxed{\begin{array}{r} 1 \\ 1 \\ 0 \\ 0 \\ 0 \end{array}} -8
 \end{array}$$

Por tanto obtenemos que queda así

-8	1000
-7	1001
-6	1010
-5	1011
-4	1100
-3	1101
-2	1110
-1	1111
0	0000
1	0001
2	0010
3	0011
4	0100

5	0101
6	0110
7	0111

$$-84 \times 57$$

PROCEDIMIENTO PARA 8. BITS

Combinaciones = $2^n \rightarrow 2^8 = 256$

0	00000000	40	00101000
1	00000001	41	00101001
2	00000010	42	00101010
3	00000011	43	00101011
4	00000100	44	00101100
5	00000101	45	00101101
6	00000110	46	00101110
7	00000111	47	00101111
8	00001000	48	00110000
9	00001001	49	00110001
10	00001010	50	00110010
11	00001011	51	00110011
12	00001100	52	00110100
13	00001101	53	00110101
14	00001110	54	00110110
15	00001111	55	00110111
16	00010000	56	00111000
17	00010001	57	00111001
18	00010010	58	00111010
19	00010011	59	00111011
20	00010100	60	00111100
21	00010101	61	00111101
22	00010110	62	00111110
23	00010111	63	00111111
24	00011000	64	01000000
25	00011001	65	01000001
26	00011010	66	01000010
27	00011011	67	01000011
28	00011100	68	01000100
29	00011101	69	01000101
30	00011110	70	01000110
31	00011111	71	01000111
32	00100000	72	01001000
33	00100001	73	01001001
34	00100010	74	01001010
35	00100011	75	01001011
36	00100100	76	01001100
37	00100101	77	01001101
38	00100110	78	01001110
39	00100111	79	01001111

80	0 1 0 1 0 0 0 0	125	0 1 1 1 1 0 1
81	0 1 0 1 0 0 0 1	126	0 1 1 1 1 1 0
82	0 1 0 1 0 0 1 0	127	0 1 1 1 1 1 1
83	0 1 0 1 0 0 1 1	128	1 0 0 0 0 0 0 0 ← -128
84	0 1 0 1 0 1 0 0	129	1 0 0 0 0 0 0 1 ← -127
85	0 1 0 1 0 1 0 1	130	1 0 0 0 0 0 1 0 ← -126
86	0 1 0 1 0 1 1 0	131	1 0 0 0 0 0 1 1 ← -125
87	0 1 0 1 0 1 1 1	132	1 0 0 0 0 1 0 0 ← -14
88	0 1 0 1 1 0 0 0	133	1 0 0 0 0 1 0 1 ← -123
89	0 1 0 1 1 0 0 1	134	1 0 0 0 0 1 1 0 ← -122
90	0 1 0 1 1 0 1 0	135	1 0 0 0 0 1 1 1 ← -121
91	0 1 0 1 1 0 1 1	136	1 0 0 0 1 0 0 0 ← -10
92	0 1 0 1 1 1 0 0	137	1 0 0 0 1 0 0 1 ← -19
93	0 1 0 1 1 1 0 1	138	1 0 0 0 1 0 1 0 ← -18
94	0 1 0 1 1 1 1 0	139	1 0 0 0 1 0 1 1 ← -17
95	0 1 0 1 1 1 1 1	140	1 0 0 0 1 1 0 0 ← -16
96	0 1 1 0 0 0 0 0	141	1 0 0 0 1 1 0 1 ← -15
97	0 1 1 0 0 0 0 1	142	1 0 0 0 1 1 1 0 ← -14
98	0 1 1 0 0 0 1 0	143	1 0 0 0 1 1 1 1 ← -13
99	0 1 1 0 0 0 1 1	144	1 0 0 1 0 0 0 0 ← -12
100	0 1 1 0 0 1 0 0	145	1 0 0 1 0 0 0 1 ← -11
101	0 1 1 0 0 1 0 1	146	1 0 0 1 0 0 1 0 ← -10
102	0 1 1 0 0 1 1 0	147	1 0 0 1 0 0 1 1 ← -9
103	0 1 1 0 0 1 1 1	148	1 0 0 1 0 1 0 0 ← -108
104	0 1 1 0 1 0 0 0	149	1 0 0 1 0 1 0 1 ← -107
105	0 1 1 0 1 0 0 1	150	1 0 0 1 0 1 1 0 ← -106
106	0 1 1 0 1 0 1 0	151	1 0 0 1 0 1 1 1 ← -105
107	0 1 1 0 1 0 1 1	152	1 0 0 1 1 0 0 0 ← -104
108	0 1 1 0 1 1 0 0	153	1 0 0 1 1 0 0 1 ← -103
109	0 1 1 0 1 1 0 1	154	1 0 0 1 1 0 1 0 ← -102
110	0 1 1 0 1 1 1 0	155	1 0 0 1 1 0 1 1 ← -101
111	0 1 1 0 1 1 1 1	156	1 0 0 1 1 1 0 0 ← -100
112	0 1 1 1 0 0 0 0	157	1 0 0 1 1 1 0 1 ← -99
113	0 1 1 1 0 0 0 1	158	1 0 0 1 1 1 1 0 ← -98
114	0 1 1 1 0 0 1 0	159	1 0 0 1 1 1 1 1 ← -97
115	0 1 1 1 0 0 1 1	160	1 0 1 0 0 0 0 0 ← -96
116	0 1 1 1 0 1 0 0	161	1 0 1 0 0 0 0 1 ← -95
117	0 1 1 1 0 1 0 1	162	1 0 1 0 0 0 1 0 ← -94
118	0 1 1 1 0 1 1 0	163	1 0 1 0 0 1 1 0 ← -93
119	0 1 1 1 0 1 1 1	164	1 0 1 0 0 1 0 0 ← -92
120	0 1 1 1 1 0 0 0	165	1 0 1 0 0 1 0 1 ← -91
121	0 1 1 1 1 0 0 1	166	1 0 1 0 0 1 1 0 ← -90
122	0 1 1 1 1 0 1 0	167	1 0 1 0 0 1 1 1 ← -89
123	0 1 1 1 1 0 1 1	168	1 0 1 0 1 0 0 0 ← -88
124	0 1 1 1 1 1 0 0	169	1 0 1 0 1 0 0 1 ← -87

170	1 0 1 0 1 0 1 0	← -86
171	1 0 1 0 1 0 1 1	← -85
172	1 0 1 0 1 1 0 0	← -84
173	1 0 1 0 1 1 0 1	← -83
174	1 0 1 0 1 1 1 0	← -82
175	1 0 1 0 1 1 1 1	← -81
176	1 0 1 1 0 0 0 0	← -80
177	1 0 1 1 0 0 0 1	← -79
178	1 0 1 1 0 0 1 0	← -78
179	1 0 1 1 0 0 1 1	← -77
180	1 0 1 1 0 1 0 0	← -76
181	1 0 1 1 0 1 0 1	← -75
182	1 0 1 1 0 1 1 0	← -74
183	1 0 1 1 0 1 1 1	← -73
184	1 0 1 1 1 0 0 0	← -72
185	1 0 1 1 1 0 0 1	← -71
186	1 0 1 1 1 0 1 0	← -70
187	1 0 1 1 1 0 1 1	← -69
188	1 0 1 1 1 1 0 0	← -68
189	1 0 1 1 1 1 0 1	← -67
190	1 0 1 1 1 1 1 0	← -66
191	1 0 1 1 1 1 1 1	← -65
192	1 1 0 0 0 0 0 0	← -64
193	1 1 0 0 0 0 0 1	← -63
194	1 1 0 0 0 0 1 0	← -62
195	1 1 0 0 0 0 1 1	← -61
196	1 1 0 0 0 1 0 0	← -60
197	1 1 0 0 0 1 0 1	← -59
198	1 1 0 0 0 1 1 0	← -58
199	1 1 0 0 0 1 1 1	← -57
200	1 1 0 0 1 0 0 0	← -56
201	1 1 0 0 1 0 0 1	← -55
202	1 1 0 0 1 0 1 0	← -54
203	1 1 0 0 1 0 1 1	← -53
204	1 1 0 0 1 1 0 0	← -52
205	1 1 0 0 1 1 0 1	← -51
206	1 1 0 0 1 1 1 0	← -50
207	1 1 0 0 1 1 1 1	← -49
208	1 1 0 1 0 0 0 0	← -48
209	1 1 0 1 0 0 0 1	← -47
210	1 1 0 1 0 0 1 0	← -46
211	1 1 0 1 0 0 1 1	← -45
212	1 1 0 1 0 1 0 0	← -44
213	1 1 0 1 0 1 0 1	← -43
214	1 1 0 1 0 1 1 0	← -42
215	1 1 0 1 0 1 1 1	← -41
216	1 1 0 1 1 0 0 0	← -40
217	1 1 0 1 1 0 0 1	← -39
218	1 1 0 1 1 0 1 0	← -38
219	1 1 0 1 1 0 1 1	← -37
220	1 1 0 1 1 1 0 0	← -36
221	1 1 0 1 1 1 0 1	← -35
222	1 1 0 1 1 1 1 0	← -34
223	1 1 0 1 1 1 1 1	← -33
224	1 1 1 0 0 0 0 0	← -32
225	1 1 1 0 0 0 0 1	← -31
226	1 1 1 0 0 0 1 0	← -30
227	1 1 1 0 0 0 1 1	← -29
228	1 1 1 0 0 1 0 0	← -28
229	1 1 1 0 0 1 0 1	← -27
230	1 1 1 0 0 1 1 0	← -26
231	1 1 1 0 0 1 1 1	← -25
232	1 1 1 0 1 0 0 0	← -24
233	1 1 1 0 1 0 0 1	← -23
234	1 1 1 0 1 0 1 0	← -22
235	1 1 1 0 1 0 1 1	← -21
236	1 1 1 0 1 1 0 0	← -20
237	1 1 1 0 1 1 0 1	← -19
238	1 1 1 0 1 1 1 0	← -18
239	1 1 1 0 1 1 1 1	← -17
240	1 1 1 1 0 0 0 0	← -16
241	1 1 1 1 0 0 0 1	← -15
242	1 1 1 1 0 0 1 0	← -14
243	1 1 1 1 0 0 1 1	← -13
244	1 1 1 1 0 1 0 0	← -12
245	1 1 1 1 0 1 0 1	← -11
246	1 1 1 1 0 1 1 0	← -10
247	1 1 1 1 0 1 1 1	← -9
248	1 1 1 1 1 0 0 0	← -8
249	1 1 1 1 1 0 0 1	← -7
250	1 1 1 1 1 0 1 0	← -6
251	1 1 1 1 1 0 1 1	← -5
252	1 1 1 1 1 1 0 0	← -4
253	1 1 1 1 1 1 0 1	← -3
254	1 1 1 1 1 1 1 0	← -2
255	1 1 1 1 1 1 1 1	← -1

COMPLEMENTARIO

$$\begin{array}{r} 0 \\ -1 \\ \hline -1 \end{array} = \begin{array}{r} 11111110 \\ + 00000000 \\ \hline 11111111 \end{array}$$

$$\begin{array}{r} -1 \\ -1 \\ \hline -2 \end{array} = \begin{array}{r} 11111111 \\ + 11111101 \\ \hline 11111110 \end{array}$$

$$\begin{array}{r} -3 \\ -1 \\ \hline -4 \end{array} = \begin{array}{r} 111111101 \\ + 11111111 \\ \hline 111111100 \end{array}$$

$$\begin{array}{r} -5 \\ -1 \\ \hline -6 \end{array} = \begin{array}{r} 111111011 \\ + 11111111 \\ \hline 111111010 \end{array}$$

$$\begin{array}{r} -7 \\ -1 \\ \hline -8 \end{array} = \begin{array}{r} 111111001 \\ + 11111111 \\ \hline 111111000 \end{array}$$

$$\begin{array}{r} -9 \\ -1 \\ \hline -10 \end{array} = \begin{array}{r} 111111011 \\ + 11111111 \\ \hline 111111010 \end{array}$$

$$\begin{array}{r} -11 \\ -1 \\ \hline -12 \end{array} = \begin{array}{r} 1111110101 \\ + 11111111 \\ \hline 1111110010 \end{array}$$

$$\begin{array}{r} -13 \\ -1 \\ \hline -14 \end{array} = \begin{array}{r} 1111110011 \\ + 11111111 \\ \hline 1111110001 \end{array}$$

$$\begin{array}{r} -15 \\ -1 \\ \hline -16 \end{array} = \begin{array}{r} 1111110001 \\ + 11111111 \\ \hline 1111110111 \end{array}$$

$$\begin{array}{r} -19 \\ -1 \\ \hline -20 \end{array} = \begin{array}{r} 1\ 1\ 1\ 0\ 1\ 1\ 0\ 1 \\ | \quad | \quad | \quad | \quad | \quad | \quad | \\ 1\ 0\ 1\ 1\ 0\ 1\ 1\ 0\ 0 \end{array}_{-20}$$

$$\begin{array}{rcl} -21 & = & \overline{\underline{\underline{1\ 1\ 1\ 0\ 1\ 0\ 1}}}_{-23} \\ -1 & & \overline{\underline{\underline{1\ 1\ 1\ 1\ 1\ 1\ 1}}}_{-23} \\ \hline -23 & = & \overline{\underline{\underline{1\ 1\ 1\ 0\ 1\ 0\ 0\ 1}}}_{-23} \end{array}$$

$$\begin{array}{r} -23 \\ -1 \\ \hline -24 \end{array} \quad \begin{array}{r} 11101001 \\ \hline 11111111 \\ \hline 11101000 \end{array} \quad -24 = \begin{array}{r} 11101000 \\ \hline 11111111 \\ \hline 11100111 \end{array} \quad -25$$

$$\begin{array}{r} -25 \\ -1 \\ \hline -26 \end{array} \quad \begin{array}{r} 11100111 \\ \hline -1 \\ \hline 11100110 \end{array} \quad \begin{array}{r} -26 \\ -1 \\ \hline -27 \end{array} \quad \begin{array}{r} 111100110 \\ \hline 111100101 \end{array}$$

$$\begin{array}{r} -23 \\ -1 \\ \hline -23 \end{array} = \begin{array}{r} 1 \ 1 \ 1 0 0 \ 1 0 1 \\ 1 \ 1 \ 1 1 1 1 1 \\ \hline 1 \ 1 \ 1 \ 1 0 0 1 0 0 \end{array} \quad \begin{array}{r} -28 \\ -1 \\ \hline -28 \end{array} = \begin{array}{r} 1 \ 1 \ 1 0 0 \ 1 0 0 \\ 1 \ 1 \ 1 1 1 1 1 \\ \hline 1 \ 1 \ 1 \ 1 1 0 0 0 \ 1 1 \ 1 \\ -29 \end{array}$$

$$\begin{array}{r} \overline{-29} \\ -1 \\ \hline -30 \end{array} \quad \begin{array}{r} 11100011 \\ \hline 11100010 \end{array} \quad \begin{array}{r} -30 \\ -1 \\ \hline -31 \end{array} \quad \begin{array}{r} 11100010 \\ \hline 11100001 \end{array} \quad \begin{array}{r} -31 \end{array}$$

$$\begin{array}{r} -31 = \\ \hline -1 \\ \hline -32 \end{array} \quad \begin{array}{r} 1111000000 \\ \hline 1111000000 \\ -32 \\ \hline -33 \end{array} \quad \begin{array}{r} -32 = \\ \hline -1 \\ \hline -33 \end{array} \quad \begin{array}{r} 1110000000 \\ \hline 1110000000 \\ -33 \\ \hline -33 \end{array}$$

$$\begin{array}{r} -33 \\ -1 \\ \hline -34 \end{array} = \begin{array}{r} 1101111 \\ 1111111 \\ \hline 1111111 \end{array} - 1 = \begin{array}{r} 1101110 \\ 1111111 \\ \hline 1111111 \end{array} - 35$$

$$\begin{array}{r} -35 \\ -1 \\ \hline -36 \end{array} = \begin{array}{c} 1\ 0\ 1\ 1\ 1\ 0\ 1 \\ \hline 1\ 1\ 0\ 1\ 1\ 1\ 0\ 0 \end{array} -36$$

$$\begin{array}{r} -36 \\ -1 \\ \hline -37 \end{array} = \begin{array}{r} 11011100 \\ 11111111 \\ \hline 1110110111 \end{array}_{-37}$$

$$\begin{array}{r} -37 \\ -1 \\ \hline -38 \end{array} = \begin{array}{r} 11011011 \\ 11111111 \\ \hline 1110110101 \end{array}_{-38}$$

$$\begin{array}{r} -38 \\ -1 \\ \hline -39 \end{array} = \begin{array}{r} 110111010 \\ 11111111 \\ \hline 111011001 \end{array}_{-39}$$

$$\begin{array}{r} -39 \\ -1 \\ \hline -40 \end{array} = \begin{array}{r} 11011001 \\ 11111111 \\ \hline 111011000 \end{array}_{-40}$$

$$\begin{array}{r} -40 \\ -1 \\ \hline -41 \end{array} = \begin{array}{r} 11011000 \\ 11111111 \\ \hline 111010111 \end{array}$$

$$\begin{array}{r} -41 \\ -1 \\ \hline -42 \end{array} = \begin{array}{r} 11010111 \\ 11111111 \\ \hline 111010110 \end{array}_{-42}$$

$$\begin{array}{r} -42 \\ -1 \\ \hline -43 \end{array} = \begin{array}{r} 11010110 \\ 11111111 \\ \hline 111010101 \end{array}_{-43}$$

$$\begin{array}{r} -43 \\ -1 \\ \hline -44 \end{array} = \begin{array}{r} 11010101 \\ 11111111 \\ \hline 111010100 \end{array}_{-44}$$

$$\begin{array}{r} -44 \\ -1 \\ \hline -45 \end{array} = \begin{array}{r} 11010100 \\ 11111111 \\ \hline 111010011 \end{array}_{-45}$$

$$\begin{array}{r} -45 \\ -1 \\ \hline -46 \end{array} = \begin{array}{r} 11010011 \\ 11111111 \\ \hline 111010010 \end{array}_{-46}$$

$$\begin{array}{r} -46 \\ -1 \\ \hline -47 \end{array} = \begin{array}{r} 11010010 \\ 11111111 \\ \hline 111010001 \end{array}_{-47}$$

$$\begin{array}{r} -47 \\ -1 \\ \hline -48 \end{array} = \begin{array}{r} 11010001 \\ 11111111 \\ \hline 111010000 \end{array}_{-48}$$

$$\begin{array}{r} -48 \\ -1 \\ \hline -49 \end{array} = \begin{array}{r} 11010000 \\ 11111111 \\ \hline 111001111 \end{array}_{-49}$$

$$\begin{array}{r} -49 \\ -1 \\ \hline -50 \end{array} = \begin{array}{r} 11010000 \\ 11111111 \\ \hline 111001110 \end{array}_{-50}$$

$$\begin{array}{r} -50 \\ -1 \\ \hline -51 \end{array} = \begin{array}{r} 11001110 \\ 11111111 \\ \hline 111001101 \end{array}_{-51}$$

$$\begin{array}{r} -51 \\ -1 \\ \hline -52 \end{array} = \begin{array}{r} 11001110 \\ 11111111 \\ \hline 111001100 \end{array}_{-52}$$

$$\begin{array}{r} -52 \\ -1 \\ \hline -53 \end{array} = \begin{array}{r} 11001100 \\ 11111111 \\ \hline 111001011 \end{array}_{-53}$$

$$\begin{array}{r} -53 \\ -1 \\ \hline -54 \end{array} = \begin{array}{r} 11001100 \\ 11111111 \\ \hline 111001010 \end{array}_{-54}$$

$$\begin{array}{r} -54 \\ -1 \\ \hline -55 \end{array} = \begin{array}{r} 11001100 \\ 11111111 \\ \hline 111001001 \end{array}_{-55}$$

$$\begin{array}{r} -55 \\ -1 \\ \hline -56 \end{array} = \begin{array}{r} 11001100 \\ 11111111 \\ \hline 111001000 \end{array}_{-56}$$

$$\begin{array}{r} -56 \\ -1 \\ \hline -57 \end{array} = \begin{array}{c} 111001000 \\ | \\ 111000111 \\ | \\ 111000111 \end{array}_{-57}$$

$$\begin{array}{r} -57 \\ -1 \\ \hline -58 \end{array} = \begin{array}{c} 111000111 \\ | \\ 111000111 \\ | \\ 111000111 \end{array}_{-58}$$

$$\begin{array}{r} -58 \\ -1 \\ \hline -59 \end{array} = \begin{array}{c} 111000110 \\ | \\ 111000101 \\ | \\ 111000101 \end{array}_{-59}$$

$$\begin{array}{r} -59 \\ -1 \\ \hline -60 \end{array} = \begin{array}{c} 111000101 \\ | \\ 111000101 \\ | \\ 111000101 \end{array}_{-60}$$

$$\begin{array}{r} -60 \\ -1 \\ \hline -61 \end{array} = \begin{array}{c} 111000100 \\ | \\ 111000011 \\ | \\ 111000011 \end{array}_{-61}$$

$$\begin{array}{r} -61 \\ -1 \\ \hline -62 \end{array} = \begin{array}{c} 111000011 \\ | \\ 111000011 \\ | \\ 111000011 \end{array}_{-62}$$

$$\begin{array}{r} -62 \\ -1 \\ \hline -63 \end{array} = \begin{array}{c} 111000010 \\ | \\ 111000000 \\ | \\ 111000000 \end{array}_{-63}$$

$$\begin{array}{r} -63 \\ -1 \\ \hline -64 \end{array} = \begin{array}{c} 111000001 \\ | \\ 111000001 \\ | \\ 111000001 \end{array}_{-64}$$

$$\begin{array}{r} -64 \\ -1 \\ \hline -65 \end{array} = \begin{array}{c} 111000000 \\ | \\ 110111111 \\ | \\ 110111111 \end{array}_{-65}$$

$$\begin{array}{r} -65 \\ -1 \\ \hline -66 \end{array} = \begin{array}{c} 110111111 \\ | \\ 110111111 \\ | \\ 110111111 \end{array}_{-66}$$

$$\begin{array}{r} -66 \\ -1 \\ \hline -67 \end{array} = \begin{array}{c} 110111110 \\ | \\ 110111101 \\ | \\ 110111101 \end{array}_{-67}$$

$$\begin{array}{r} -67 \\ -1 \\ \hline -68 \end{array} = \begin{array}{c} 110111101 \\ | \\ 110111100 \\ | \\ 110111100 \end{array}_{-68}$$

$$\begin{array}{r} -68 \\ -1 \\ \hline -69 \end{array} = \begin{array}{c} 110111100 \\ | \\ 110111011 \\ | \\ 110111011 \end{array}_{-69}$$

$$\begin{array}{r} -69 \\ -1 \\ \hline -70 \end{array} = \begin{array}{c} 110111011 \\ | \\ 110111010 \\ | \\ 110111010 \end{array}_{-70}$$

$$\begin{array}{r} -70 \\ -1 \\ \hline -71 \end{array} = \begin{array}{c} 110111010 \\ | \\ 110111001 \\ | \\ 110111001 \end{array}_{-71}$$

$$\begin{array}{r} -71 \\ -1 \\ \hline -72 \end{array} = \begin{array}{c} 110111001 \\ | \\ 110111000 \\ | \\ 110111000 \end{array}_{-72}$$

$$\begin{array}{r} -72 \\ -1 \\ \hline -73 \end{array} = \begin{array}{c} 110111000 \\ | \\ 110110111 \\ | \\ 110110111 \end{array}_{-73}$$

$$\begin{array}{r} -73 \\ -1 \\ \hline -74 \end{array} = \begin{array}{c} 110110111 \\ | \\ 110110110 \\ | \\ 110110110 \end{array}_{-74}$$

$$\begin{array}{r} -74 \\ -1 \\ \hline -75 \end{array} = \begin{array}{c} 110110110 \\ | \\ 110110101 \\ | \\ 110110101 \end{array}_{-75}$$

$$\begin{array}{r} -75 \\ -1 \\ \hline -76 \end{array} = \begin{array}{c} 110110101 \\ | \\ 110110100 \\ | \\ 110110100 \end{array}_{-76}$$

$$\begin{array}{r} -76 \\ \hline -77 = \frac{10110100}{110110011} \end{array}$$

$$\begin{array}{r} -77 \\ \hline -78 = \frac{10110011}{110110010} \end{array}$$

$$\begin{array}{r} -78 \\ \hline -79 = \frac{10110010}{110110001} \end{array}$$

$$\begin{array}{r} -79 \\ \hline -80 = \frac{10110001}{110110000} \end{array}$$

$$\begin{array}{r} -80 \\ \hline -81 = \frac{10110000}{110101111} \end{array}$$

$$\begin{array}{r} -81 \\ \hline -82 = \frac{10101111}{110101101} \end{array}$$

$$\begin{array}{r} -82 \\ \hline -83 = \frac{10101110}{110101101} \end{array}$$

$$\begin{array}{r} -83 \\ \hline -84 = \frac{10101101}{110101100} \end{array}$$

$$\begin{array}{r} -84 \\ \hline -85 = \frac{10101100}{110101011} \end{array}$$

$$\begin{array}{r} -85 \\ \hline -86 = \frac{10101011}{110101010} \end{array}$$

$$\begin{array}{r} -86 \\ \hline -87 = \frac{10101010}{110101001} \end{array}$$

$$\begin{array}{r} -87 \\ \hline -88 = \frac{10101001}{110101000} \end{array}$$

$$\begin{array}{r} -88 \\ \hline -89 = \frac{10101000}{110100111} \end{array}$$

$$\begin{array}{r} -89 \\ \hline -90 = \frac{10100111}{110100110} \end{array}$$

$$\begin{array}{r} -89 \\ \hline -91 = \frac{10100110}{110100101} \end{array}$$

$$\begin{array}{r} -91 \\ \hline -92 = \frac{10100101}{110100100} \end{array}$$

$$\begin{array}{r} -92 \\ \hline -93 = \frac{10100100}{110100011} \end{array}$$

$$\begin{array}{r} -93 \\ \hline -94 = \frac{10100011}{110100010} \end{array}$$

$$\begin{array}{r} -94 \\ \hline -95 = \frac{10100010}{110100001} \end{array}$$

$$\begin{array}{r} -95 \\ \hline -96 = \frac{10100001}{110100000} \end{array}$$

$$\begin{array}{r} -96 \\ \hline -1 \\ \hline -97 \end{array} = \begin{array}{c} 10100000 \\ | \\ 11111111 \\ | \\ 110011111 \\ \hline -97 \end{array}$$

$$\begin{array}{r} -97 \\ \hline -1 \\ \hline -98 \end{array} = \begin{array}{c} 10011111 \\ | \\ 11111111 \\ | \\ 110011110 \\ \hline -98 \end{array}$$

$$\begin{array}{r} -98 \\ \hline -1 \\ \hline -99 \end{array} = \begin{array}{c} 10011110 \\ | \\ 11111111 \\ | \\ 110011101 \\ \hline -99 \end{array}$$

$$\begin{array}{r} -99 \\ \hline -1 \\ \hline -100 \end{array} = \begin{array}{c} 100111101 \\ | \\ 11111111 \\ | \\ 110011100 \\ \hline -100 \end{array}$$

$$\begin{array}{r} -100 \\ \hline -1 \\ \hline -101 \end{array} = \begin{array}{c} 100111100 \\ | \\ 11111111 \\ | \\ 110011011 \\ \hline -101 \end{array}$$

$$\begin{array}{r} -101 \\ \hline -1 \\ \hline -102 \end{array} = \begin{array}{c} 100111101 \\ | \\ 11111111 \\ | \\ 110011010 \\ \hline -102 \end{array}$$

$$\begin{array}{r} -102 \\ \hline -1 \\ \hline -103 \end{array} = \begin{array}{c} 100111010 \\ | \\ 11111111 \\ | \\ 110011001 \\ \hline -103 \end{array}$$

$$\begin{array}{r} -103 \\ \hline -1 \\ \hline -104 \end{array} = \begin{array}{c} 10011001 \\ | \\ 11111111 \\ | \\ 110011000 \\ \hline -104 \end{array}$$

$$\begin{array}{r} -104 \\ \hline -1 \\ \hline -105 \end{array} = \begin{array}{c} 10011000 \\ | \\ 11111111 \\ | \\ 110010111 \\ \hline -105 \end{array}$$

$$\begin{array}{r} -105 \\ \hline -1 \\ \hline -106 \end{array} = \begin{array}{c} 10010111 \\ | \\ 11111111 \\ | \\ 110010110 \\ \hline -106 \end{array}$$

$$\begin{array}{r} -106 \\ \hline -1 \\ \hline -107 \end{array} = \begin{array}{c} 10010110 \\ | \\ 11111111 \\ | \\ 110010101 \\ \hline -107 \end{array}$$

$$\begin{array}{r} -107 \\ \hline -1 \\ \hline -108 \end{array} = \begin{array}{c} 10010101 \\ | \\ 11111111 \\ | \\ 110010100 \\ \hline -108 \end{array}$$

$$\begin{array}{r} -108 \\ \hline -1 \\ \hline -109 \end{array} = \begin{array}{c} 10010100 \\ | \\ 11111111 \\ | \\ 110010011 \\ \hline -109 \end{array}$$

$$\begin{array}{r} -109 \\ \hline -1 \\ \hline -110 \end{array} = \begin{array}{c} 10010011 \\ | \\ 11111111 \\ | \\ 110010001 \\ \hline -110 \end{array}$$

$$\begin{array}{r} -110 \\ \hline -1 \\ \hline -111 \end{array} = \begin{array}{c} 10010010 \\ | \\ 11111111 \\ | \\ 110010001 \\ \hline -111 \end{array}$$

$$\begin{array}{r} -111 \\ \hline -1 \\ \hline -112 \end{array} = \begin{array}{c} 10010001 \\ | \\ 11111111 \\ | \\ 110010000 \\ \hline -112 \end{array}$$

$$\begin{array}{r} -112 \\ \hline -1 \\ \hline -113 \end{array} = \begin{array}{c} 10010000 \\ | \\ 11111111 \\ | \\ 110010111 \\ \hline -113 \end{array}$$

$$\begin{array}{r} -113 \\ \hline -1 \\ \hline -114 \end{array} = \begin{array}{c} 10010001 \\ | \\ 11111111 \\ | \\ 110011101 \\ \hline -114 \end{array}$$

$$\begin{array}{r} -114 \\ \hline -1 \\ \hline -115 \end{array} = \begin{array}{c} 10010001 \\ | \\ 11111111 \\ | \\ 110001101 \\ \hline -115 \end{array}$$

$$\begin{array}{r} -115 \\ \hline -1 \\ \hline -116 \end{array} = \begin{array}{c} 10010001 \\ | \\ 11111111 \\ | \\ 110001100 \\ \hline -116 \end{array}$$

$$\begin{array}{r} -116 \\ \hline -1 \\ \hline -117 \end{array} = \begin{array}{c} 10010001 \\ | \\ 11111111 \\ | \\ 110001011 \\ \hline -117 \end{array}$$

$$\begin{array}{r} -117 \\ \hline -1 \\ \hline -118 \end{array} = \begin{array}{c} 10010001 \\ | \\ 11111111 \\ | \\ 110001010 \\ \hline -118 \end{array}$$

$$\begin{array}{r} -118 \\ \underline{-1} \\ -119 \end{array} = \begin{array}{c} 111 \\ | \\ 0001010 \\ | \\ 0001001 \end{array}_{-119}$$

$$\begin{array}{r} -119 \\ \underline{-1} \\ -120 \end{array} = \begin{array}{c} 1111101 \\ | \\ 0001001 \\ | \\ 0001000 \end{array}_{-120}$$

$$\begin{array}{r} -120 \\ \underline{-1} \\ -121 \end{array} = \begin{array}{c} 1111 \\ | \\ 0001000 \\ | \\ 110000111 \end{array}_{-121}$$

$$\begin{array}{r} -121 \\ \underline{-1} \\ -122 \end{array} = \begin{array}{c} 1111111 \\ | \\ 0000110 \\ | \\ 0000110 \end{array}_{-122}$$

$$\begin{array}{r} -122 \\ \underline{-1} \\ -123 \end{array} = \begin{array}{c} 1111111 \\ | \\ 0000110 \\ | \\ 10000101 \end{array}_{-123}$$

$$\begin{array}{r} -123 \\ \underline{-1} \\ -124 \end{array} = \begin{array}{c} 1111111 \\ | \\ 0000100 \\ | \\ 110000100 \end{array}_{-124}$$

$$\begin{array}{r} -124 \\ \underline{-1} \\ -125 \end{array} = \begin{array}{c} 1111111 \\ | \\ 0000100 \\ | \\ 110000011 \end{array}_{-125}$$

$$\begin{array}{r} -125 \\ \underline{-1} \\ -126 \end{array} = \begin{array}{c} 1111111 \\ | \\ 00000010 \\ | \\ 1100000010 \end{array}_{-126}$$

$$\begin{array}{r} -126 \\ \underline{-1} \\ -127 \end{array} = \begin{array}{c} 1111111 \\ | \\ 00000010 \\ | \\ 1100000001 \end{array}_{-127}$$

$$\begin{array}{r} -127 \\ \underline{-1} \\ -128 \end{array} = \begin{array}{c} 1111111 \\ | \\ 00000000 \\ | \\ 1100000000 \end{array}_{-128}$$

$$n = 8 \longrightarrow 2^n \longrightarrow 2^8 = 256$$

$$-2^{n-1} \leq x \leq 2^{n-1} - 1$$

$$-2^{8-1} \leq x \leq 2^{8-1} - 1$$

$$-128 \leq x \leq 127$$