

Study Guide - Binary Numbers

The power of 2

- Binary to decimal: Work right to left
- Decimal to binary: Work left to right
- Create a table (big enough to cover the size of the number)

2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
128	64	32	16	8	4	2	1

Binary => Decimal

01100111								01100111							
128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
0	1	1	0	0	1	1	1	0	1	1	0	0	1	1	1
64 + 32 + 4 + 2 + 1 => 103								64 + 32 + 4 + 2 + 1 => 103							

Decimal => Binary

7								72							
128	64	32	16	8	4	2	1	128	64	32	16	8	4	2	1
0	0	0	0	0	1	1	1	0	1	0	0	1	0	0	0
4 + 2 + 1 => 111								64 + 8 => 1001000							