Counting in Decimal

- Humans are conditioned to count in decimal.
- For each 'column' in a number we have 10 possible choices, from 0 to 9.
- Every time we add a digit, the value is magnified by a power of 10.
- We start with a '1' as the furthest right multiplier, then each digit to the left is multiplied by 10.
- 236 is six 1's, three 10's, and two 100's.

100's	10's	1's
2	3	6

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Counting in Binary

- Computers work in binary.
- Electrical impulses are either on or off, so there's two choices.
- For each 'column' in a number we have 2 possible choices, 0 or 1.
- Every time we add a digit, the value is magnified by a power of 2.
- We start with a '1' as the furthest right digit, then each digit to the left is multiplied by 2.
- 236 in binary is 11101100

128	64	32	16	8	4	2	1
1	1	1	0	1	1	0	0

Counting up to 7 in Binary

	1
0	0

	1
1	1

	2	1
2	1	0

	2	1
3	1	1

	4	2	1
4	1	0	0

	4	2	1
5	1	0	1

	4	2	1
6	1	1	0

	4	2	1
7	1	1	1