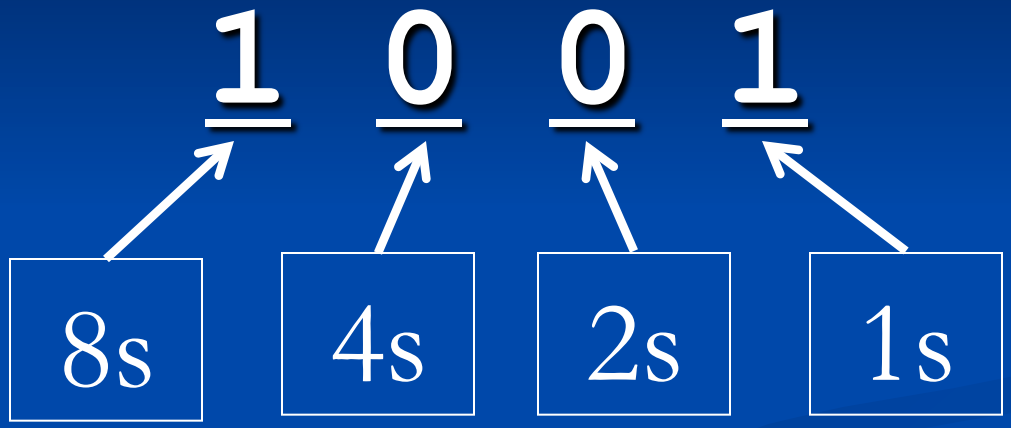
Binary Lesson 3 Hexadecimal

Last modified 9-25-13

Counting to 15

Base Two	Base Ten	Base 16 (Hex)	Base Two	Base Ten	Base 16 (Hex)
0	0	0	1000	8	8
1	1	1	1001	9	9
10	2	2	1010	10	A
11	3	3	1011	11	B
100	4	4	1100	12	C
101	5	5	1101	13	D
110	6	6	1110	14	E
111	7	7	1111	15	F

Four Bits Make a Nybble



- A nybble can be represented by one hexadecimal digit
- Values from 0 to 15, or 0 to F

Eight Bits Make a Byte

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

One nybble: 0 through F	One nybble: 0 through F

So this number is

128 + 16 + 8 + 1 = 153

Two hexadecimal digits make a byte

1	0	0	1	1	0	0	1

One nybble:	One nybble:
0 through F	0 through F
# of 16s	# of 1s

Left nybble = 9; right nybble = 9

So this number is 0x99 = 9*16 + 9 = 144+9 = 153