ARMAssembly:BinaryIntro:A

Bit: 1
Byte: 01101010

01101010
10010110
10100101
11010001
10100101

Decimal Counting
100s 10s 1s
2 3 4

Binary Counting
8s 4s 2s 1s
1 1 0 1 value 8 + 4 + 1 = 13

2 4 8 16 32 64 128 256 512 1024 2048

4096 8192 16384 32768 65536

Counting Upward in Binary

128	64	32	16	8	4	2	1	
0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	1	
0	0	0	0	0	0	1	0	
0	0	0	0	0	0	1	1	
0	0	0	0	0	1	0	0	
0	0	0	0	0	1	0	1	
0	0	0	0	0	1	1	0	
0	0	0	0	0	1	1	1	7
0	0	0	0	1	0	0	0	8
0	0	0	0	1	0	0	1	9
0	0	0	0	1	0	1	0	10
0	0	0	0	1	0	1	1	11
0	0	0	0	1	1	0	0	12
0	0	0	0	1	1	0	1	13
0	0	0	0	1	1	1	0	14
0	0	0	0	1	1	1	1	15
0	0	0	1	0	0	0	0	16
0	0	0	1	0	0	0	1	17
0	0	0	1	0	0	1	0	18
0	0	0	1	0	0	1	1	19
0	0	0	1	0	1	0	0	20
.....								
1	1	1	1	1	1	1	1	255

1111111111111111 = 65535

11111111111111111111111111111111 = 4,294,967,295

1 byte, or 8 bits, max 255

2 bytes, or 16 bits, max 65535

4 bytes, or 32 bits, max 4 billion +

8 bytes, or 64 bits, max 10 quintillion +