

## Bits Cheat Sheet

	$2^n$	Bits	Max unsigned int	Min signed int	Max signed int
$2^1$	2	1	1	-1	0
$2^2$	4	2	3	-2	1
$2^3$	8	3	7	-4	3
$2^4$	16	4	15	-8	7
$2^5$	32	5	31	-16	15
$2^6$	64	6	63	-32	31
$2^7$	128	7	127	-64	63
$2^8$	256	8	255	-128	127
$2^9$	512	9	511	-256	255
$2^{10}$	1,024	10	1,023	-512	511
$2^{11}$	2,048	11	2,047	-1,024	1,023
$2^{12}$	4,096	12	4,095	-2,048	2,047
$2^{13}$	8,192	13	8,191	-4,096	4,095
$2^{14}$	16,384	14	16,383	-8,192	8,191
$2^{15}$	32,768	15	32,767	-16,384	16,383
$2^{16}$	65,536	16	65,535	-32,768	32,767
$2^{17}$	131,072	17	131,071	-65,536	65,535
$2^{18}$	262,144	18	262,143	-131,072	131,071
$2^{19}$	524,288	19	524,287	-262,144	262,143
$2^{20}$	1,048,576	20	1,048,575	-524,288	524,287
$2^{21}$	2,097,152	21	2,097,151	-1,048,576	1,048,575
$2^{22}$	4,194,304	22	4,194,303	-2,097,152	2,097,151
$2^{23}$	8,388,608	23	8,388,607	-4,194,304	4,194,303
$2^{24}$	16,777,216	24	16,777,215	-8,388,608	8,388,607
$2^{25}$	33,554,432	25	33,554,431	-16,777,216	16,777,215
$2^{26}$	67,108,864	26	67,108,863	-33,554,432	33,554,431
$2^{27}$	134,217,728	27	134,217,727	-67,108,864	67,108,863
$2^{28}$	268,435,456	28	268,435,455	-134,217,728	134,217,727
$2^{29}$	536,870,912	29	536,870,911	-268,435,456	268,435,455
$2^{30}$	1,073,741,824	30	1,073,741,823	-536,870,912	536,870,911
$2^{31}$	2,147,483,648	31	2,147,483,647	-1,073,741,824	1,073,741,823
$2^{32}$	4,294,967,296	32	4,294,967,295	-2,147,483,648	2,147,483,647