

Potenzen

$$\begin{aligned} 2^0 &= \underline{1} \\ 2^1 &= \underline{2} \\ 2^2 &= 2 \cdot 2 = \underline{4} \\ 2^3 &= 2 \cdot 2 \cdot 2 = \underline{8} \\ 2^4 &= \underline{16} \\ 2^5 &= \underline{32} \\ 2^6 &= \underline{64} \\ 2^7 &= \underline{128} \\ 2^8 &= \underline{256} \end{aligned}$$

Größt Mögliche Zahl

$$\begin{aligned} 11 &= 2^2 - 1 = 3 \\ 111 &= 2^3 - 1 = 7 \\ 1111 &= 2^4 - 1 = 15 \end{aligned}$$

$$\begin{array}{cccc} 3 & 2 & 1 & 0 \\ 1 & 0 & 0 & 1 \\ \hline 1 \cdot 2^3 & \cancel{0 \cdot 2^2} & \cancel{0 \cdot 2^1} & 1 \cdot 2^0 \\ 8 & & & 1 = 9 \end{array}$$

$$\begin{array}{c} 11010 \\ 16 + 8 + 0 + 2 + 0 = \underline{\underline{26}} \end{array}$$

Dezimal
in
Binär

2^5	2^4	2^3	2^2	2^1	2^0	
32	16	8	4	2	1	
0	0	0	0	0	1	1
0	0	0	1	0	1	5
0	0	1	1	0	0	12
0	1	0	0	0	1	17
1	0	0	0	0	0	32
0	1	1	1	0	1	$29 = 16 + 8 + 4 + 1 = 29$

$$\begin{array}{rcl} 29 : 2 = 14 & \text{Rest} & 1 \\ 14 : 2 = 7 & & 0 \\ 7 : 2 = 3 & & 1 \\ 3 : 2 = 1 & & 1 \\ 1 : 2 = 0 & & 1 \end{array}$$

$$\begin{array}{c} 11101 \\ 16 + 8 + 4 + 0 + 1 = \underline{\underline{29}} \end{array}$$