

## Sum Of Powers Algorithm

311 256	$2^8$
55 32	$2^5$
23 16	$2^4$
7 4	$2^2$
3 2	$2^1$
1 1	$2^0$
0	

$$\begin{aligned} 311_{10} &= 256 + 32 + 16 + 4 + 2 + 1 \\ &= 2^8 + 2^5 + 2^4 + 2^2 + 2^1 + 2^0 \\ &= \text{b}1,0011,0111 \end{aligned}$$

**Note:** This algorithm can be reversed to convert from binary to decimal!