

$$b_p^{2^n} = \begin{cases} b_p^{2^{n-1}} b_p^{2^{n-1}} & \text{if } p \leq 2^{n-1} \\ b_{p-2^{n-1}+1}^{2^{n-1}} b_0^{2^{n-1}} & \text{else if } p < 2^n \\ 1(2^n - 1)0s & \text{if } p = 2^n \end{cases}$$