Problem 14. A positive integer $k$ is called “1-poor” if, in its binary representation, any two consecutive appearances of the digit 1 are separated by 2 or more 0’s. For example $34 = 100010_{\text{two}}$ is 1-poor but $5 = 101_{\text{two}}$ is not. How many “1-poor” positive integers are less than $2^{20}$?