

Exercise 1: How many flip-flops would be required to generate a ML PRBS of period 16383? How many ones would the sequence have?

$$\text{period} = 16383 = 2^{14} - 1$$

$$k = 14$$

$$\# \text{ of ones is } 2^{13} = 8192$$

Exercise 2: Why not?

anyone who knows the scrambling method can descramble it

Exercise 3: How many errors will appear in the output of a V.22 descrambler if there is one input error?

$1 + 2 = 3$
↑ original error
↑ error propagating through the descrambler SR