Lecture 13 - PN Sequences and Scramblers

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

$16383 = 2^{14} - 1$ ∴ need 14 FFs.

it would have $2^{k-1} = 2^{13} = 8192$ ones

Exercise 2: Why not?

because anyone who knows how the scrambler is built can "decode" the data

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

2 - when the error reaches each of the FFs that feed the XOR gate