

PN Sequences and Scramblers

Exercise 1: How many bits are there in an m-sequence for $m = 6$?
How many are 1's? How many are 0's?

Exercise 2: If the initial value of each flip-flop is 1, what are the values of the next 4 bits output by the right-most flip-flop?

Exercise 3: How many flip-flops would be required to generate a ML PRBS of period 8191? How many ones would the sequence have? What is the longest sequence of 0's?

Exercise 4: Why not?

Exercise 5: How many errors will appear in the output of a V.34 descrambler if there is one input error?

Exercise 6: In the diagram above, what two signals would the receiver compare to detect errors?