Mastering Mastermind

Mastermind is a two-person code breaking game which works as follows. The first person (the code maker) creates a sequence of n colored pegs (with duplicate colors allowed) and hides it from view. This sequence of pegs is the code.

The second person (the code breaker) has the job of trying to determine the code maker's code and she does so by making a series of guesses. Each guess also consists of n colored pegs. After each guess, the code maker gives the code breaker feedback about how close she is. This feedback consists of two number r and s, where itemize

d the guess, position.