Bill Linderman* (wclinder@king.edu), 1350 King College Road, Bristol, TN 37620. Runs of Heads and Tails - Genuine or Bogus?

Flip a coin 200 times and record the sequence of heads and tails or simply make up a sequence that appears to be genuine. If students are given this task, how easy is it to identify which sequences are real and which are fake? We approach this well-known problem by determining probabilities of long runs using matrices. Demonstrations are in Mathematica. (Received September 27, 2005)