MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Department of Electrical Engineering and Computer Science

Department of Mechanical Engineering

6A32 / 2A29	Information and Entropy	Fall 1999
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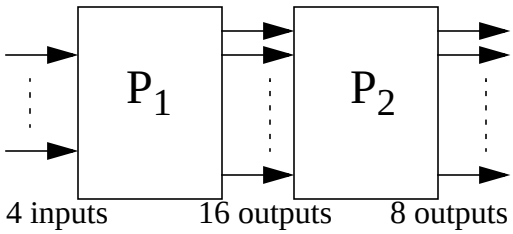
On the right is a pictoral diagram of a cascaded system. The input to the whole system are the 4 possible values of a single roll of a 4 sided dice (tetrahedron). The first box, P_1, appends to the input the value of a second dice roll resulting in 16 possible output pairs (roll1 and roll2). The second box, P_2, adds the two dice rolls together, resulting in 7 possible outputs (2-8).



Problem 1

Determine the transition matrices for P_1 and P_2.

Problem 2

Determine the amount of noise and loss in P_1. Do the same for P_2.