

Reasoning under Uncertainty

COURSE: CS40002

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Tutorial

1. We have a bag of three biased coins a, b, and c with probabilities of coming up heads of 20%, 60%, and 80%, respectively. One coin is drawn randomly from the bag (with equal likelihood of drawing each of the three coins), and then the coin is flipped three times to generate the outcomes X_1 , X_2 , and X_3 .
 - a. Draw the Bayesian network corresponding to this setup and define the necessary CPTs.
 - b. Calculate which coin was most likely to have been drawn from the bag if the observed flips come out heads twice and tails once.