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function REJECTION-SAMPLING(X, $\mathbf{e}$, bn, N) **returns** an estimate of $\mathbf{P}(X|\mathbf{e})$
  inputs: X, the query variable
           $\mathbf{e}$, observed values for variables $\mathbf{E}$
           bn, a Bayesian network
           N, the total number of samples to be generated
  local variables: $\mathbf{N}$, a vector of counts for each value of X, initially zero

  for j = 1 to N **do**
      $\mathbf{x} \leftarrow$ PRIOR-SAMPLE(bn)
      if $\mathbf{x}$ is consistent with $\mathbf{e}$ **then**
         $\mathbf{N}[x] \leftarrow \mathbf{N}[x]$+1 where x is the value of X in $\mathbf{x}$
  return NORMALIZE($\mathbf{N}$)

Figure 14.14   The rejection-sampling algorithm for answering queries given evidence in a Bayesian network.