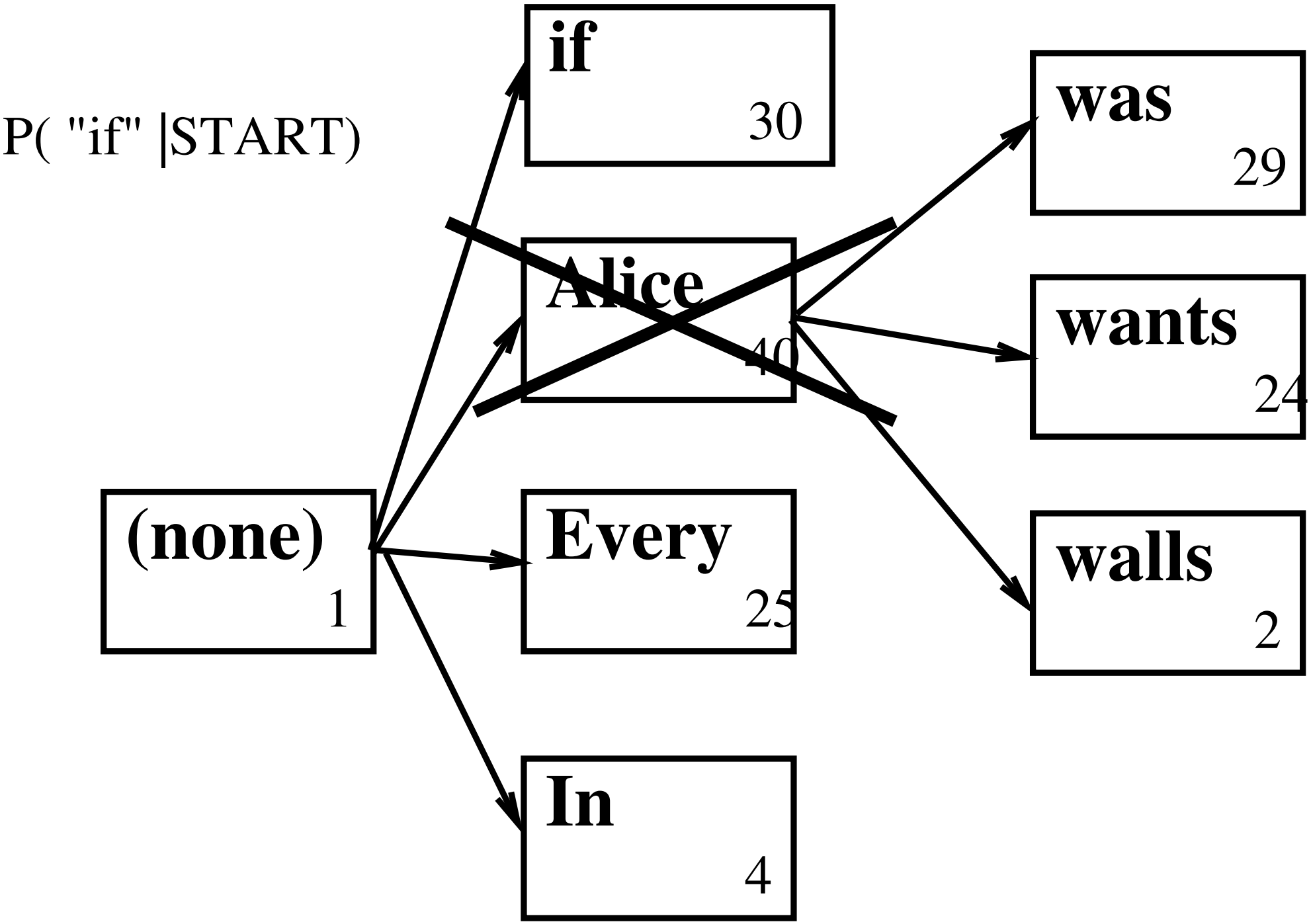P(acoustics| "if") =
forward probability