

2⁵ joint probs (atomic events) $P(S|PA) = \alpha P(S \cap PA)$

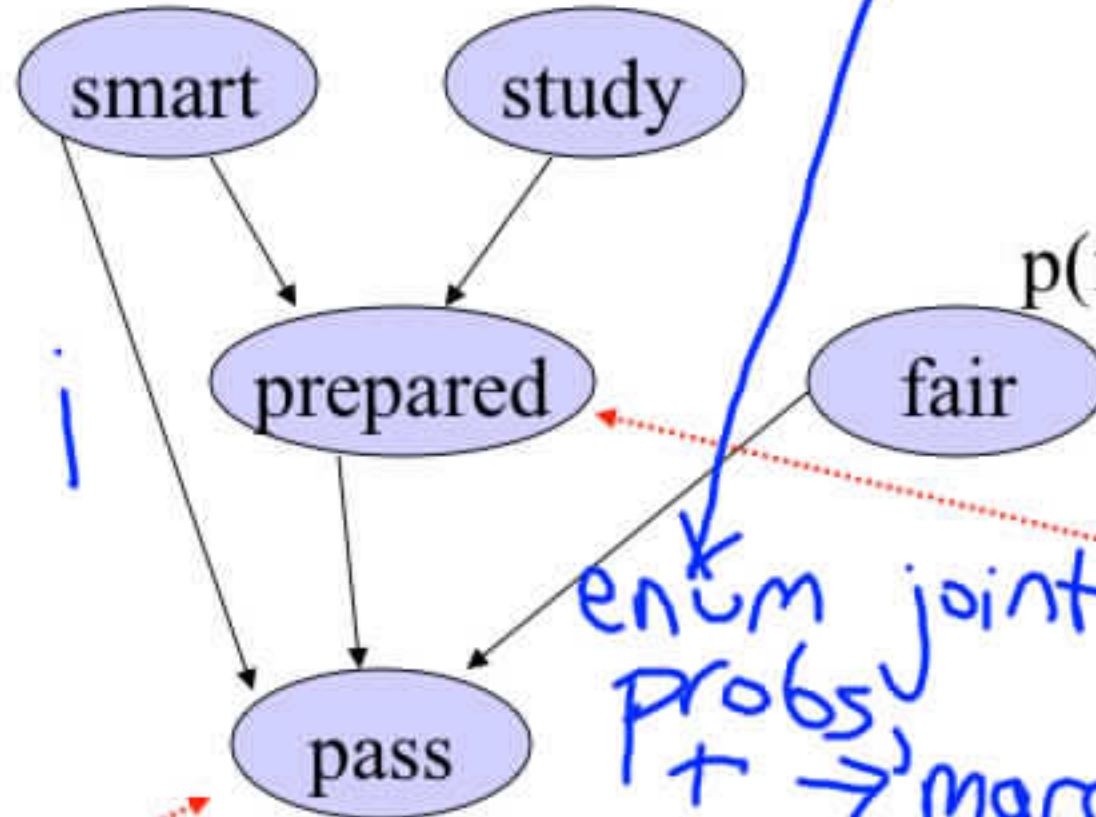
Exercise: Enumeration

$p(\text{smart}) = .8$

$p(\text{study}) = .6$

$$= \alpha \sum_{f, sm, p} p(s) p(sm) p(p|sm, s) p(f)$$

$\sum_{i=1}^{10} i$



enum joint probs + marginal

$p(\text{prep} \dots)$	smart	\neg smart
study	.9	.7
\neg study	.5	.1

$p(\text{pass} \dots)$	smart		\neg smart	
	prep	\neg prep	prep	\neg prep
fair	.9	.7	.7	.2
\neg fair	.1	.1	.1	.1

Query: What is the probability that a student studied, given that they pass the exam?