CAP 4630.01 Assignment 6 Due 11/13/19

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Given the following Bayesian belief network and probability tables, please figure out the joint probability of:

$$P\left(A \cap \overline{B} \cap \overline{C} \cap D\right)$$

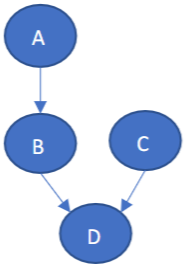

Figure 1: Bayesian Belief network

$P(A)$
$a\%$

A	$P(B)$
true	$b\%$
false	$c\%$

$P(C)$
$d\%$

B	C	$P(D)$
true	true	$e\%$
true	false	$f\%$
false	true	$g\%$
false	false	$h\%$

$$P(\overline{C}) = 1 - d\%$$
$$P(\overline{B}|A) = 1 - b\%$$

$$\begin{aligned} P(A \cap \overline{B} \cap \overline{C} \cap D) &= P(A) \times P(\overline{B}|A) \times P(\overline{C}) \times P(D|B \cap C) \\ &= a\% \times (1 - b\%) \times (1 - d\%) \times e\% \end{aligned}$$