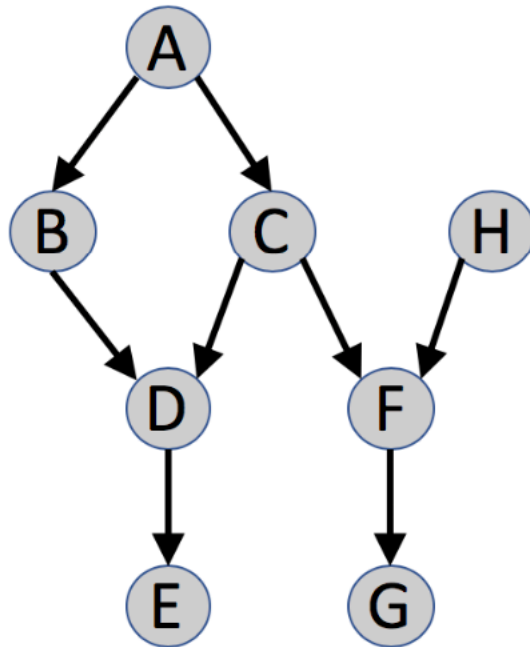


# CSCI 378 HW5

Examine the following Bayesian network structure:



Consider a probability distribution that factors according to this Bayesian network structure. Which of the following statements **must be true** about the probability distribution? Write a checkmark beside each true statement.

$A \perp\!\!\!\perp D \mid C$ ? \_\_\_\_\_

$A \perp\!\!\!\perp D \mid \{B, C, H\}$ ? \_\_\_\_\_

$A \perp\!\!\!\perp H$ ? \_\_\_\_\_

$B \perp\!\!\!\perp H \mid A$ ? \_\_\_\_\_

$B \perp\!\!\!\perp H \mid \{A, E, G\}$ ? \_\_\_\_\_

$B \perp\!\!\!\perp G \mid \{C, D\}$ ? \_\_\_\_\_

$B \perp\!\!\!\perp F \mid \{A, E\}$ ? \_\_\_\_\_

$A \not\perp\!\!\!\perp F \mid B$ ? \_\_\_\_\_

$C \not\perp\!\!\!\perp E \mid A$ ? \_\_\_\_\_

$H \not\perp\!\!\!\perp F$ ? \_\_\_\_\_