AU332 Quiz11

* 基本信息：

姓名： s

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*1. You are given the prior distribution P(X), and two conditional distributions P(Y|X) and P(Z|Y) as below (you are also given the fact that Z is independent from X given Y). All variables are binary variables. Co mpute the following joint distributions based on the chain rule and fill in the blanks.

X	$P(X)$
0	0.200
1	0.800

Y	X	$P(Y\|X)$
0	0	0.200
1	0	0.800
0	1	0.400
1	1	0.600

Z	Y	$P(Z\|Y)$
0	0	0.400
1	0	0.600
0	1	0.400
1	1	0.600

X	Y	$P(X,Y)$
0	0	Q1
1	0	Q2
0	1	Q3
1	1	Q4

X	Y	Z	$P(X,Y,Z)$
0	0	0	Q5
1	0	0	0.128
0	1	0	0.064
1	1	0	Q6
0	0	1	0.024
1	0	1	Q7
0	1	1	0.096
1	1	1	Q8

Q1： 0.04

Q2： 0.32

Q3： 0.16

Q4： 0.48

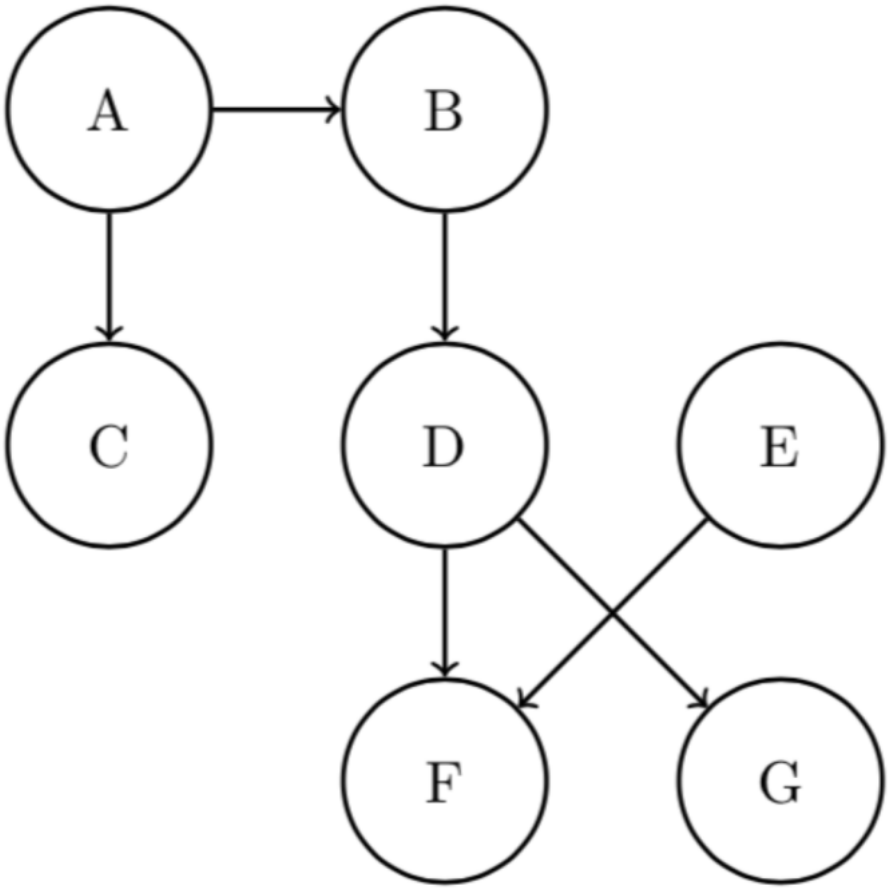
Q5： 0.016

Q6： 0.192

Q7： 0.192

Q8： 0.288

***2.**



Assume each node can take on 4 values. How many entries do the tables at A, D, and F have?

A： 4

D： 16

F： 64

提交