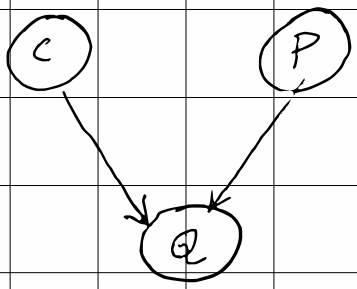
Ans 2)

(i) Q : Quiz

C : class

P : Quiz

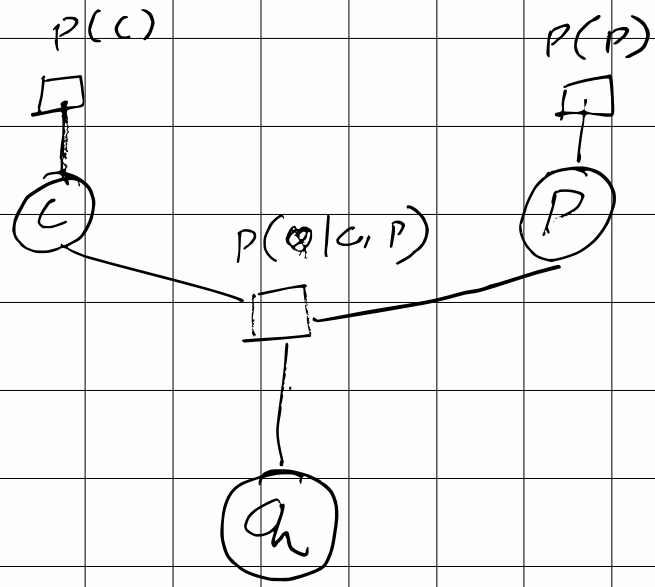


Bayesian network.

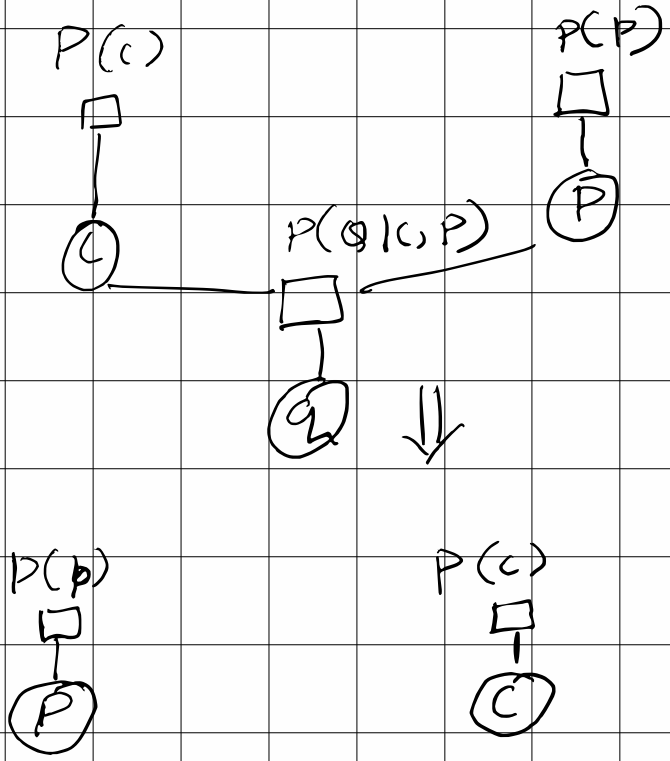
(ii) $P(C=c, Q=q) =$

$P(c) \cdot P(P) \cdot P(Q|c, P)$

(iii)



(iv)



Q1) i) $\hat{T}(S_1, A, S_1) = \frac{2}{3}$

$\hat{T}(S_1, A, S_2) = \frac{1}{3}$

$R(S_1, A, S_1) = \frac{1}{2}(5+7) = 6$

$R(S_1 A S_2) = 3$

ii) Reward : 11.33, 10, 11

Trasitional prob : 3, 4, 1

iii) Reward : 4, 4, 0

Trasitional prob : $\frac{2}{3}, \frac{1}{3}$, 20

iv) Reward: 4, 4, 10.

prob: $\frac{4}{3}, \frac{1}{3}, 1$

(v) Reward: 4, 4, 4, 10.

Prob: $\frac{4}{3}, \frac{1}{3}, \frac{1}{3}, 1$

(Q3) i) nothing but truths.

ii) $m(\text{Rain}) \cap m(\text{Rain} \rightarrow \text{wet}) \subseteq m(\text{wet})$

iii) a) likes (apple) dislike (human)

~~b) fails (quiz2) ⇒ fails (course)~~

c) owns (cat, dogs)

Q3) b) $\forall x (\text{Student}(x) \wedge \text{fails}(x, \text{quiz3}) \Rightarrow \text{fails}(x, \text{course})$