HW2

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var lmn = function(){

var probw = flip(0.2)

var probx = probw ? flip(0.6) : (0.1)

var probz = probw ? flip(0.45) : (0.75)

var probq = probz ? flip(0.6) : (0.5)

var proby = Infer({model:function() {

var y1 = probx ? (probz ? flip(0.3) : flip(0.2)) : (probz ? flip(0.2) : flip(0.7));

var y2 = probx ? (probz ? flip(0.5) : flip(0.2)) : (probz ? flip(0.7) : flip(0.1));

var y3 = probx ? (probz ? flip(0.2) : flip(0.6)) : (probz ? flip(0.1) : flip(0.2));

return {y1 : y1 , y2 : y2 , y3 : y3} ;

}})

var probp = Infer({model:function() {

var p1 = (proby == proby.y1) ? flip(0.6) : ((proby == proby.y2) ? flip(0.5) : flip(0.2)) ;

var p2 = (proby == proby.y1) ? flip(0.1) : ((proby == proby.y2) ? flip(0.4) : flip(0.4)) ;

var p3 = (proby == proby.y1) ? flip(0.3) : ((proby == proby.y2) ? flip(0.1) : flip(0.4)) ;

return {p1 : p1 , p2 : p2 , p3 : p3} ;

}})

var pw=function() {

var t = (marginalize(probp, function(x) {

return x.p2;

}) && condition(probq === true ) )

}

return (pw && probw)

}

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