0.45 probability of mushroom, (100+400+300+100)/2000
0.425 probability of pepperoni, (150+400+200+100)/2000
0.4 probability of extra cheese, (200+300+100)/2000

0.25 ,probability of mushroom and pepperoni, (400+100)/2000
0.2 probability of mushroom and cheese, (300+100)/2000
0.15 probability of pepperoni and cheese, (200+100)/2000

0.05 probability of mushroom, pepperoni, and cheese, (100/2000)

Daniel Prusinski
Assignment 4

Rule	Support	P(lhs)	Confidence	P(rhs)	Lift	Num	D1 * D2	
If M then P	0.25	0.45	0.55555556	0.425	1.31	0.25	0.45	0.425
If P then M	0.25	0.425	0.58823529	0.45	1.30719	0.25	0.425	0.45
If M then C	0.2	0.45	0.44444444	0.4	1.111111	0.2	0.45	0.4
If C then M	0.2	0.4	0.5	0.45	1.111111	0.2	0.4	0.45
If P then C	0.15	0.425	0.35294118	0.4	0.882353	0.15	0.425	0.4
If C then P	0.16	0.4	0.375	0.425	0.882353	0.15	0.4	0.425
If (M,P) then C	0.05	0.25	0.2	0.4	0.5	0.05	0.25	0.4
If (M,C) then P	0.05	0.2	0.25	0.425	0.588235	0.05	0.2	0.425

Confidence	Num	Denom	Function
P(M+P)/P(M)	0.25	0.45	0.55555556
If P then M	0.25	0.425	0.58823529
If M then C	0.2	0.45	0.44444444
If C then M	0.2	0.4	0.5
If P then C	0.15	0.425	0.35294118
If C then P	0.15	0.4	0.375
If (M,P) then C	0.05	0.25	0.2
If (M,C) then P	0.05	0.2	0.25

Final thoughts:
Support is often the same if one switches between the consequent and antecedent value. While this remains the same, the confidence changes based on frequency as well as the size of the greater population. In my opinion, this can be misleading with the potential for manipulation. Lift follows the same pattern as support in that the order of the antecedent and consequent remain the same.

The calculations were done in Excel, and a copy of the assignment with formulas is available upon request.

D3	Denom	Num/Den
	0.19125	1.30719
	0.19125	1.30719
	0.18	1.111111
	0.18	1.111111
	0.17	0.882353
	0.17	0.882353
0	0.1	0.5
	0.085	0.588235