CUNY Data 609 HW9

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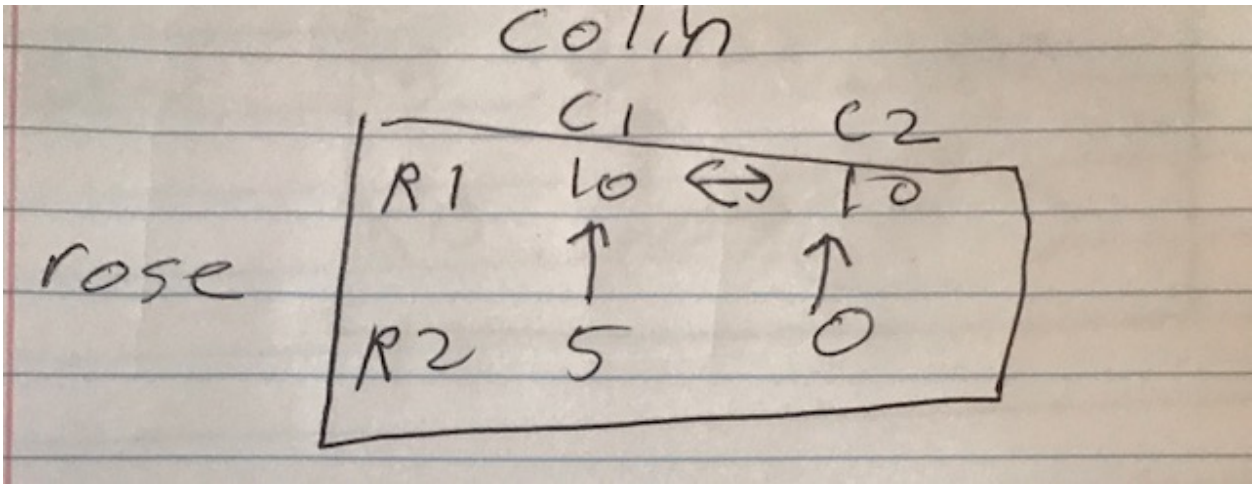
p 385 #1a

1. Using the definition provided for the movement diagram, determine whether the following zero-sum games have a pure strategy Nash equilibrium. If the game does have a pure strategy Nash equilibrium, state the Nash equilibrium. Assume the row player is maximizing his payoffs which are shown in the matrices below.

a.

		Colin	
		C1	C2
Rose	R1	10	10
	R2	5	0

Figure 1:



Both players do not have a pure strategy. Rose will always pick row R1, but colin will pick either C1 or C2.

p 385 #2c

There is a pure Nash equilibrium here.

The pitcher should throw a Knucklebal and the batter should guess aknNuckleball.

Then the batting average will be .250

c.

		Pitcher	
		Fastball	Knuckleball
Batter	Guesses fastball	.400	.100
	Guesses knuckleball	.300	.250

Figure 2:

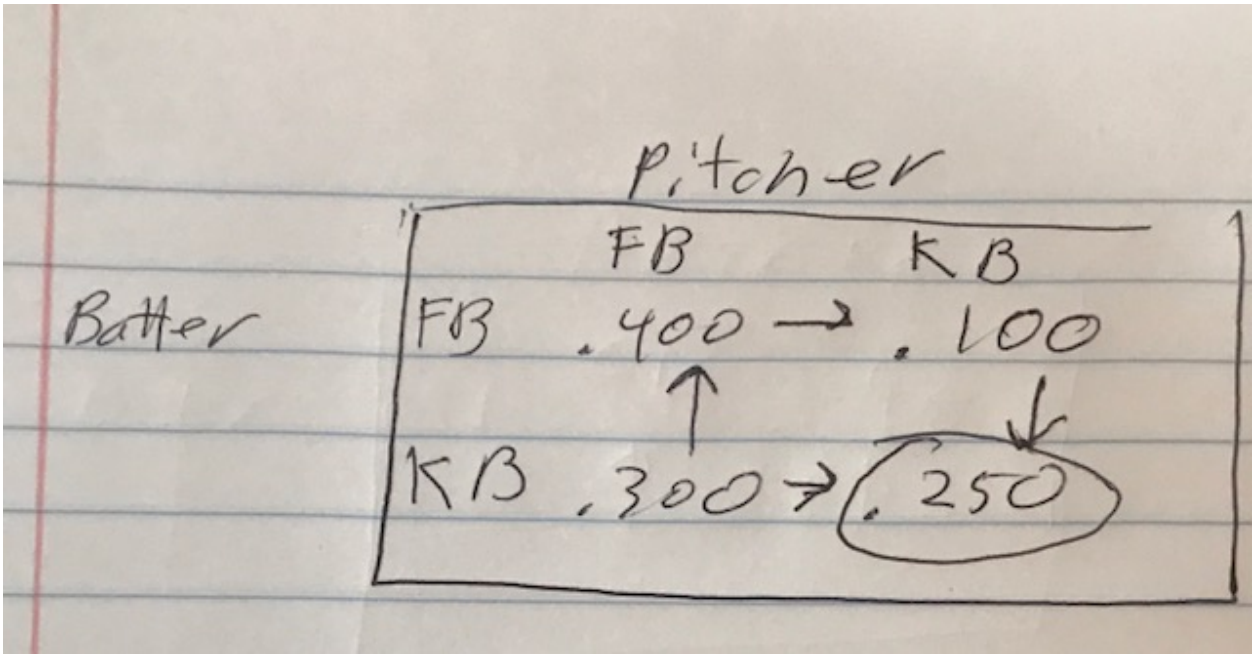


Figure 3:

p420 #1

In the following problems, use the maximin and minimax method and the movement diagram to determine if any pure strategy solutions exist. Assume the row player is maximizing his payoffs which are shown in the matrices below.

1.

		Colin	
		C1	C2
Rose	R1	10	10
	R2	5	0

Figure 4:

p440 #2

Use movement diagrams to find all the stable outcomes in Problems 1 through 5. Then use strategic moves (using Table 10.2) to determine if Rose can get a better outcome.

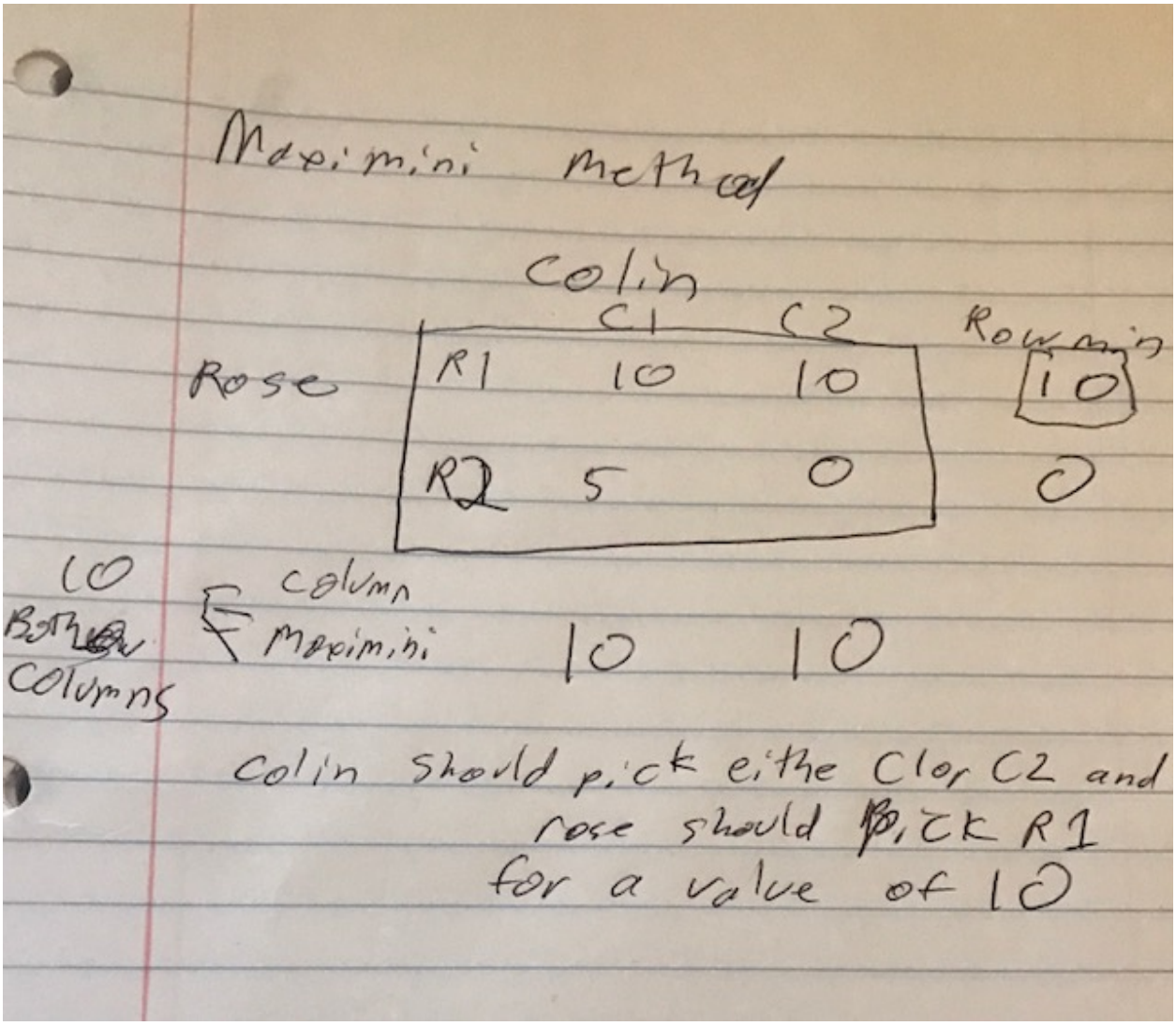


Figure 5:

2.

		Colin	
		C1	C2
Rose	R1	(1, 2)	(3, 1)
	R2	(2, 4)	(4, 3)

Figure 6:

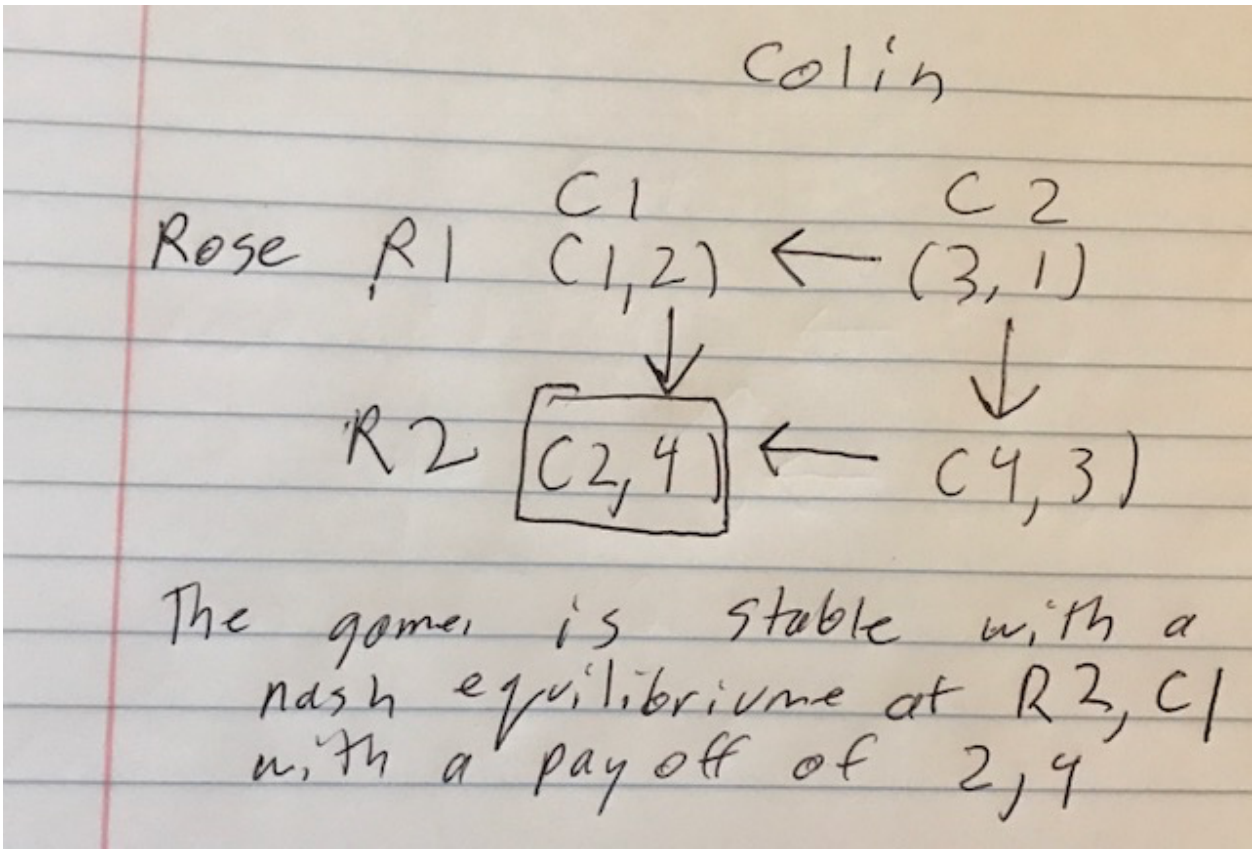

Colin
C1
C2
Rose R1
(1,2)
(3,1)
R2
(2,4)
(4,3)
The game is stable with a nash equilibrium at R2, C1 with a pay off of 2,4

Figure 7: