Recap quiz

Consider 2-player zero-sum game

Rosemary \ Colin	c_1	c_2	c_3
r_1	1	2	3
r_2	-3	-2	-1

Call this payoff matrix $A = a_{ij}$

What is the expected payoff to Rosemary/Colin if

Rosemary plays mixed strategy $\underline{x} = (\frac{1}{2}, \frac{1}{2})$

Colin plays $\underline{y} = (\frac{1}{4}, \frac{1}{2}, \frac{1}{4})$

What is the expected payoff to Rosemary if

Rosemary plays mixed strategy $\underline{x} = (\frac{1}{4}, \frac{3}{4})$

Colin plays pure strategy c_3

Example

Rosemary \ Colin	h	t
h	1	-1
t	-1	1

Find security level for Rosemary's mixed strategy.

$\underline{r} = (\frac{1}{3}, \frac{2}{3})$

Example

	c_1	c_2
r_1	1	3
r_2	4	2

Set $\underline{x} = (\frac{1}{2}, \frac{1}{2})$, $\underline{y} = (\frac{1}{4}, \frac{3}{4})$

Show $(\underline{x}, \underline{y})$ is Nash equilibrium

Example 11.1. Give a linear program for finding the row player's optimal mixed strategy for the zero-sum game with the following payoff matrix:

Rosemary \ Colin	1	2
1	2	−3
2	−3	4
3	4	−5

Example 11.1. Give a linear program for finding the row player's optimal mixed strategy for the zero-sum game with the following payoff matrix:

Colin

Rosemary	1	2
1	2	−3
2	−3	4
3	4	−5