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- Same goes for the other players
- There may be other outcomes that are preferable

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 - All invest, or none invest

• Let's play the game again.

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- What happened to peoples' strategies?

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- This is an example of a coordination game:
 - There are multiple Nash equilibria
 - Saying your strategy out loud is beneficial
 - Other players will have no reason to think that you're lying
 - Other players will choose the corresponding equilibrium point

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Other examples:



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Driving a car on either side of the road

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- Stag Hunt:
 - You and a partner are hunting

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You track a stag to a thicket

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 - You must decide immediately
 - If you both wait for the stag to return, the payoff is 5 (for both of you)
 - If you hunt rabbit, the payoff is 1
 - If you wait for the stag and your partner hunts rabbit, the stag is scared off, and your payoff is 0

Other examples:

Battle of the Sexes:

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Other examples:

- Battle of the Sexes:
 - You're meeting up with a date at the movies

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You prefer going to a comedy

Other examples:

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- You prefer going to a comedy
- Your date prefers going to a drama

Other examples:

- Battle of the Sexes:
 - You're meeting up with a date at the movies
 - You prefer going to a comedy
 - Your date prefers going to a drama
 - Brilliant idea: you plan on meeting in the back row of the theater

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 - Payouts:

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Different players prefer different Nash equilibria

Coordination Games

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- Different players prefer different Nash equilibria
- Basic model for negotiations

Another version of Prisoners' Dilemma:

You and an accomplice are caught by the police

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If you both confess, you both get 3 years

Another version of Prisoners' Dilemma:

- You and an accomplice are caught by the police
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- Candidates will split the vote of views that are the same distance to both candidates
- Win by random draw if candidates tie
- Payoffs:
 - Utility of 200 for winning
 - Cost of 100 to run
 - Cost of |x y| for y winning (for x)

Examples:

• If x enters and wins, their payoff is 200 - 100 = 100

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Only if they lie on 50

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 - Two candidates must be equidistant from 50
 - Is this enough?
 - ▶ No if candidates are too extreme, a central candidate can win

- Morals:
 - There are many Nash equilibria
 - Not all equilibria have candidates crowded at the median
 - If you enter on the left, you make it more likely that someone on the right wins (splitting the vote)
- Problems?
 - Everyone decides whether or not to run at once
 - Not everyone can practically run
 - Still assumes that politics lie on a single spectrum