Good Afternoon, Colleagues

Are there any questions?
Logistics

- Welcome back!
Logistics

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- Progress reports due in 2 weeks
Logistics

- Welcome back!
- Progress reports due in 2 weeks
- Game theory resources
Game Theory

- Multiagent systems
- Economics
- Social science, law, etc.
Bach/Stravinsky

- My wife and I agree to meet at a concert
Bach/Stravinsky

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• Unfortunately, there are 2: Bach and Stravinsky
Bach/Stravinsky

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• No time to get in touch with each other
Bach/Stravinsky

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- But most of all, we want to be together
Bach/Stravinsky

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- No time to get in touch with each other
- I prefer Stravinsky, she prefers Bach
- But most of all, we want to be together
- Propose a payoff matrix
<table>
<thead>
<tr>
<th>Wife</th>
<th>S</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>2,1</td>
<td>0,0</td>
</tr>
<tr>
<td>B</td>
<td>0,0</td>
<td>1,2</td>
</tr>
</tbody>
</table>

Bach/Stravinsky
Matching Pennies

- We each put a penny down covered
- If they match, I win, if they don’t, you win
## Matching Pennies

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<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H</strong></td>
<td>1,-1</td>
<td>-1,1</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td>-1,1</td>
<td>1,-1</td>
</tr>
</tbody>
</table>

**Player 2**

<table>
<thead>
<tr>
<th></th>
<th>H</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H</strong></td>
<td>1,-1</td>
<td>-1,1</td>
</tr>
<tr>
<td><strong>T</strong></td>
<td>-1,1</td>
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</tr>
</tbody>
</table>

**Player 1**
Matching Pennies

- We each put a penny down covered
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<th>Player 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>1, -1</td>
<td>-1, 1</td>
</tr>
<tr>
<td>T</td>
<td>-1, 1</td>
<td>1, -1</td>
</tr>
</tbody>
</table>

Player 2

H 1,-1 -1,1

T -1,1 1,-1

Nash equilibrium?