Cold-War Game:

$C_1, C_2$ - cold war

$C_1, C_2$ can choose from 2 different actions,

- H - health of citizens
- D - military spending
<table>
<thead>
<tr>
<th></th>
<th>( C_2 )</th>
<th>( H )</th>
<th>( D )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( C_1 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( H )</td>
<td>100,100</td>
<td>-100/150</td>
<td></td>
</tr>
<tr>
<td>( D )</td>
<td>150/-100</td>
<td>10/10</td>
<td></td>
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</tbody>
</table>

(D, D) is NOT a Pareto Optimal outcome since both can improve their payoff by choosing (H, H).

(D, D) is the NE outcome.
D is a 'DOMINANT' strategy or action for C₁ — i.e. D is a 'Best response' irrespective of the action of the other country.
\( a^* \) is a DOMINANT action for player \( i \), if

\[
U_i(a^*, a_{-i}) \geq U_i(a_i, a_{-i})
\]

for all \( a_i \in A_i \),

for all \( a_{-i} \in A_{-i} \)

\[
U_i(D, H) \geq U_i(H, H)
\]

\[
U_i(D, D) \geq U_i(H, D)
\]

Therefore \( D \) is a DOMINANT action for country 1.
Therefore, D is a dominant action for country 2.
So confess (C) is a ‘Dominant’ strategy for both players in the PD Game.
Therefore $(C, C)$ is a 'Dominant' strategy equilibrium.

Example of a Party
Several people having 'loud' conversations.
either - Shout/Loud
  speak softly.
Speaking Loudly or Shouting is a Dominant Strategy Equilibrium.

Concert Example:
- Sit
- Stand.
Everyone standing is the "dominant" strategy equilibrium.