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

	H	D
H	100,100	-100,150
D	150,-100	10,10

C_1 / C_2

(D,D) is the NE outcome

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

	H	D
H	100,100	-100, 150
D	150,-100	10, 10

C_1 / C_2

D is a 'DOMINANT' strategy or action for C_1 — i.e. D is a 'Best response' irrespective of the action of the other country.

a_i^* is a DOMINANT action
for player i, iF
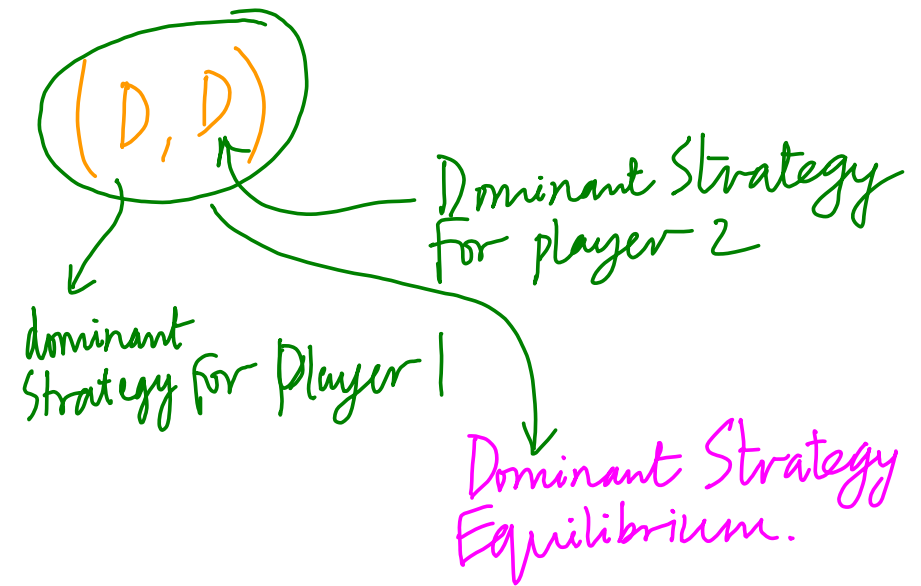
$$U_i(a_i^*, a_{-i}) \geqslant U_i(a_i, a_{-i})$$

for all $a_i \in A_i$
for all $a_i \in A_{-i}$

$$U_1(D, H) \geqslant U_1(H, H)$$

$$U_1(D, D) \geqslant U_1(H, D)$$

Therefore D is a `DOMINANT´
action for country 1.

Therefore, D is a dominant action for country 2.

(D, D)

Dominant Strategy for player 2

dominant Strategy for Player 1

Dominant Strategy Equilibrium.

	P_2 C	D
P_1		
C	-3, -3	0, -4
D	-4, 0	-1, -1

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.