

Lecture note 4 for game theory:
 Dominant Strategy and Dominant Strategy Equilibrium

Dominant Strategy and Dominant Strategy Equilibrium

When one strategy is best for a player no matter what strategy the other player uses, that strategy is said to dominate all other strategies and is called a dominant strategy. And if both players have a dominant strategy, then the equilibrium in such a game is called a dominant-strategy equilibrium

<Prisoner's dilemma game>

		Player 2	
		Do Not Confess	Confess
Player 1	Do Not Confess	-1, -1	-9, 0
	Confess	0, -9	-6, -6

<Price Setting Oligopoly Game>

Assume that Ford and GM build cars that are almost identical so that price is the variable that consumers look at when deciding which type of car to buy. If both Ford and GM are colluding and setting a high price, each reaps a good profit of \$500 million. If one firm sets a high price, then the other firm can achieve an advantage by cheating and setting a low price. The firm with the low price will steal virtually the entire market and earn a profit of \$700 million for itself, while leaving its competitor with a profit of only \$100 million. If both firms set a low price, then they share equally in an expanded market, but because of the low price, each earns a profit of only \$300 million.

		GM	
		High Price	Low Price
Ford	High Price	500, 500	100, 700
	Low Price	700, 100	300, 300

If there is a dominant strategy for each player, the dominant strategy equilibrium can be obtained by elimination of dominated strategies.