**Game theory**, branch of applied mathematics that provides tools to inspect situations in which parties, called players, make decisions that are interdependent. This interdependence causes each player to consider the other player’s possible decisions, or strategies, in formulating his own strategy. A solution to a game describes the optimal decisions of the players, who may have similar, opposed, or mixed interests, and the outcomes that may result from these decisions.

Game theory has been applied to a wide variety of situations in which the choices of players interact to affect the outcome. In stressing the strategic aspects of decision making, or aspects controlled by the player rather than by pure chance, the theory both supplements and goes beyond the classical theory of probability.

Games can be classified according to certain significant features, the most obvious of which is the number of players. Thus, a game can be designated as being a one- person, two-person, or n- person (with n greater than two) game, with games in each category having their own distinctive features. In addition, a player need not be an individual; it may be a nation, a corporation, or a team comprising many people with shared interests.

In games of perfect information such as chess, each player always knows everything about the game. Poker, on the other hand, is an example of a game of imperfect information because player do not know all their opponent’s cards.

**Reference:**

<https://www.britannica.com/science/game-theory>