**Game theory** is a mathematical theory of interactive decision situations. These situations are categorized by the below elements:

1. There is a group of agents.
2. Each agent must decide.
3. An outcome results as a function of the decisions of all agents.
4. Each agent has his own preferences on the set of possible outcomes.

One of the most active researchers in the field, Robert J. Aumann coated “game theory is optimal decision making in the presence of others with different objectives.” A collection of interactive decision situations is also known as parlor games. Game theory derives the terminology used in parlor games to designate the various elements that are involved in interactive decision situations. The situations themselves are called games, the agents are called players and their available decisions are called strategies.

Classical game theory is an ideal normative theory, that means it prescribes, for every game we need to sense the behavior of the player which means knows what player wants, has the only objective of getting what he wants, and is able to identify the strategies that best suites the objective.

**Reference:**

<https://www.ams.org/books/gsm/115/gsm115-endmatter.pdf>