

Sharing and Generosity (Summer, 2019)

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Activity

Game theory is a branch of mathematics that aims to study the theory and practice of the way people interact with each other in situations where their "interests" may not coincide. On the one hand game theory looks at how to give advice in such conflict situations but also at how people actually act in "conflict" situations. In particular, game theory explores situations that involve "fairness."

The Free Lunch Foundation (FLF) offers two people X and Y the following one-time only opportunity, the rules being carefully explained to both people (players).

X will be given \$30 which X must split into two parts, one for X and the other for Y. X is NOT able to communicate or discuss with Y how Y looks at matters.

If Y accepts the amount Y is offered by X, then FLF gives X the \$30 and the split is carried out. If Y does not accept what is offered, then FLF gives X nothing, so neither X nor Y gets anything. Again, both X and Y understand how the arrangement works.

Question 1.

If you were offered the role of X, how would you split the \$30?

Question 2.

What do you think people, when offered this opportunity, actually do?

Question 3.

If you are X but someone made you the offer you decided on in Question 1 for Y (that is, you play the role of Y for now), would you (as Y) accept the offer you decided to make?

Question 4.

How might people behave differently if the amount that is being offered by the FLF was different? For example, what differences might occur if the amount being "shared" was \$10, \$100, \$1000, or \$1,000,000?

Game Theory is sometimes used by scholars in the social sciences and philosophy to probe how cooperative or uncooperative people are. Similarly with regard to the trait of being "generous." Some people who earn \$30,000 (before taxes) a year will donate \$300 to charity in a year, while someone who earns \$3,000,000 a year might donate \$30,000. What is your reaction to the "generosity" of these people?

Question 4.

What "mathematical" advice would give to X and Y as to how to play this game?