Introduction:
What choices do people make when faced with economic decisions? How do these choices produce consequences for people? The University of Guelph's first year seminar course titled Games, Decisions, and Economic Behaviour is a course that focuses on analyzing the behavioural choices made by individuals when faced with economic situations. Economists and other social scientists have made theories to explain choices and strategic behaviour that usually consist of making simple assumptions about rationality and self-interest1. A new approach that is used to answer questions is through behavioural experiments set up to represent real dilemmas. These in class experiments are simple games for research purposes that analyze decisions made by players. In each game played, students create data that is later analyzed and broken down using certain economic techniques2. These experiments promote students to think about the decisions that they and their classmates are making in a particular manner. It also allows students to compare their own behaviour and decisions to data that have been previously gathered by many social scientists that study such behaviour in several backgrounds and circumstances3.

Background:
Berg, Dickhaut, and McCabe examined the trust game in 1995². They were studying trust and reciprocity in the controlled experiment4. The game was often described as an investment game to avoid using the word 'trust'. In the standard version, one player in a pair is given ten dollars. The job of the first mover is to decide how much (if any) to give to the second player and how much to keep for themselves. Generally, the action of player one sending money to player two shows their 'trust' in the second player. This may cause the second player to feel the need to reciprocate and send a reasonable amount of money back.

In Berg, Dickhaut, and McCabe's experiment with thirty-two pairs of people, most of the first movers sent a fair amount of money to their partner, but found that only about eighteen percent of that money was sent back by player two. This means the second mover ended up with a much higher profit than the first mover.

The experimenters found that there was an equilibrium in this experiment, commonly called the subgame perfect Nash equilibrium. This would result when player one keeps the entire sum, and sends nothing to their partner. This equilibrium represents a self-interested player who is trying to make the maximum amount of money. By sending no money over, there is no way that they can lose money or that the second player can earn more than them. Cox discovered that the act of sending money over in the first stage might not be due to anticipated reciprocity, but due to altruism5. Participants playing with less self-interest are usually interested in increasing another player's earnings, even if it might cost them. He also determined that although altruism is a factor in the second player's decision, reciprocity also plays a role².

The Experiment:
The Trust Game, is one that is usually conducted in the laboratory and consists of two major treatments⁶. All participants are randomly and anonymously paired with another player with whom they play in all rounds and treatments⁷. One player is given a sum of $10.00 and makes the decision about how much of that sum to keep for their own earnings, and how much to give to their partner (if any)⁸. Before the sent sum is received by player two, that amount is multiplied by three. At this point, the receiver (or second player) decides how much of the multiplied sum (if any) is returned back to player one⁹. After five rounds (unless otherwise specified) have been completed, the game moves into treatment two, players take on the same role as in the previous treatment². The only difference here is that the sum sent to player two will be multiplied by a factor of six instead of three. Treatment two also consists of five rounds, unless specified otherwise. Earnings are cumulative, and are represented towards the end, as the total made across both treatments².

Results:
Theoretical and experimental data usually show slightly differing results because the outcome of players is ultimately unpredictable, especially if the individual has never participated in experiments of a similar kind². Still, certain theories in economics try to propose conclusions based on experimental data of several sources². The University of Guelph's UNIV 1200 class ran this experiment in a classroom of approximately 16 students. What they observed in terms of collected results was typically similar to theoretical (or expected) outcomes. Below is a display of plotted data based on the results collected in treatments one and two of the classroom experiment;

Analysis:
The classroom results were fairly scattered in both treatments. In treatment one, about half of the players playing as mover one, were giving away the entire sum of $10.00. In this strategy, players are hoping that with the entire sum multiplied and sent to the receiver, that exactly half this portion will be sent back to player one. The other half of the first movers were keeping most, if not all of the money to themselves. The decisions made by these two players represent what is called the “subgame perfect Nash equilibrium.” This type of strategy arises when players are self-interested and do not put any “trust” in their partner. However, despite it being the equilibrium, it is not the dominant strategy. The highest yielding payoff results when player one sends the entire sum and receives one half of return, essentially putting the “trust” into the game.

Relation:
How does The Trust Game represent the idea of trust? Can this economic experiment be useful when measuring trustworthiness in an individual? The idea on which this experiment is based is to analyze whether individuals can move beyond pure self-interest to exhibit trust and reciprocity³. Traditionally, economists have often assumed that people play as self-interested participants and are not willing to contribute towards the well-being of others. So is it reasonable to say that most players generated results seen in the experiment? Whichever way economists interpret this game, trustworthiness varies for each individual and is not always something that can be measurable. However, in this experiment it would be sensible for the players to cooperate and establish some sort of “trust” between one another so that both the sender and responder can maximize their payoffs.

References: