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Project Title: Automated Negotiation for Supply Chain Management

Description:
The topic of automated negotiation deals with autonomous agents that are purely self-interested but that still need to cooperate to ensure beneficial outcomes. Each agent may propose potential solutions to the other agents, which may then accept or reject those proposals. Although each agent is self-interested, its proposals must still benefit the others because otherwise they would never accept them. Therefore, a good negotiating agent must strike a balance between maximizing its own utility and maximizing the utility of its opponents. A typical example is the case of a buyer and a seller that are bargaining over the price of a car.

The goal of this project is to implement a negotiating agent (in Python) that negotiates on behalf of a factory manager situated in a supply chain management simulation. The goal of this agent is to maximize its profit of the factory manager, given its private production capabilities, by negotiating trades with other agents. The agent can engage in several bilateral negotiations simultaneously. If successful, the algorithm could be submitted to participate in the Automated Negotiating Agents Competition (ANAC) 2023, which will take place in London.