CCAgent for SCML OneShot 2023

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CCAgent

***Quantity*: Over-selling/over-buying   *Price*: Bull and bear strategy**

SMCL-2023 Oneshot

- Our consideration for an agent's strategy has shifted from *price* to *quantity*.
- The range of possible prices has narrowed.
  - It's now two consecutive integer values (high or low).
- The impact of price on utility has decreased.

The points to be considered: *quantity*

- Ideally, the target quantity should be achieved without any shortfall or excess.
- However, concurrent negotiations makes it difficult to achieve a perfect balance.
- Our preliminary experimental results show that a seller's utility tends to decrease when there is an excess of products, and a buyer's utility tends to decrease when there is a shortage of products.

Offer Strategy of CCAgent: **cooperative strategy**

Quantity:
- The smaller of the quantity offered by an opponent and the quantity currently needed is proposed.
- CCAgent *always offers the quantity offered by an opponent or below.*

Price:
- CCAgent proposes her *best price*.
  - Buyer: she offers *a low price*.
  - Seller: she offers *a high price*.

Accept Strategy of CCAgent: **compromising strategy**

Quantity:
- CCAgent accepts a proposal *even if the proposed quantity is one more than currently required*.

Price:
- She *always accepts* the trading price proposed by an opponent.

Experimental Results

Agent	Average Score (100 games)
CCAgent	**11,016**
Simple Agent	10,924

#	Agent	Score
1	QuantityOrientedAgent	10,969
2	CCAgent	10,846
3	SyncAgent	10,654

- CCAgent vs SimpleAgent
  - *CCAgent outperforms SimpleAgent*
- Last online tournament on May 3rd
  - CCAgent is ranked *second*

Contact

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