

AI Algorithms Explanation

1. Bidding strategy

- 1) At the very beginning, when the AI got all the 6 cards and is going to decide which to bid, the AI will count the card numbers of different suits. Also $\text{bid} = 0$.
- 2) The AI will just choose the suit which has the most cards as the trump suit (planned).
- 3) If there is a card $>$ Jack in that suit, the AI will bid for the High point, bid ++.
- 4) If there is a card $<$ 5 in that suit, the AI will bid for the Low point, bid ++.
- 5) If there is a jack in that suit, the AI will bid for the Jack point, bid ++.
- 6) If there is a 10 in that suit, the AI will bid for the Game point, bid ++.
- 7) The AI will not bid Smudge, it's too risky.
- 8) If $\text{bid} < 2$, according to the rules, AI would not bid.
- 9) If $\text{bid} \geq 2$, AI would bid whatever it got.

2. Card Playing Strategy

- 1) The first mission of this strategy is to help AI follow the rules.
- 2) The second mission of this strategy is to help AI win the current trick.
- 3) When AI leads a hand (decides the trump suit), it will play a random card from the suit which it has the most.
- 4) When AI leads a trick (means it can play any card), it will play the card which has the most number. The reason doing this is to try to win the current trick.
- 5) When AI neither leads a hand or leads a trick, trying to win this trick, AI will play one of its trump card if it has, if not, the card of the suit led, if not, a random card.