AI Algorithms Description

I.   Overall Idea
        The AI algorithms are designed to help computer opponents for bidding for each round,
as well as playing a card for each hand. It provides reasonable strategies for computer player to
follow. The overall idea for the strategies is let the computer player win the game in some case
but not all the time. No one would want to play the game if the computer is winning all the time.

II. Bidding
        The bidding algorithm evaluate the cards of a player has in the hand, and if it fits in a
certain case it will return a bid value corresponded to that case. The cases are listed below:
    A. Bidding 5
        a) Has Ace, King, Queen, Jack, Ten and Two in the same suit
    B. Bidding 4
        a) Has Ace, King, Jack, and Two in the same suit
    C. Bidding 3
        a) Has Ace and Two in the same suit
        b) Has Ace and Jack in the same suit
        c) Has Ace, Jack and Two in the same suit
    D. Bidding 2
        a) Has Ace
        b) No Ace but has King and Jack in the same suit
        c) No ace but has King and Two in the same suit
    E. Pass for all other case
III. Playing
        The playing algorithm are designed based on the bidding logic. As well as the rules of
Pitch game.
    A. The player is starting this round which means this player won bidding (this player
        must have Ace or King or both)
        a) Play Ace (will definitely win)
        b) No Ace play king
    B. The player is staring this hand but trump suit is set
        a) Play Trump Ace (will definitely win)
        b) No Trump Ace, play trump King
        c) No Trump Ace or King, play a card has value in the range of Ace to ten in
            another suit
    C. There are cards played in this hand
        a) The first card played is a Trump card (Game rules: has to play Trump card if has)
            1. Play Trump Ace
            2. No Trump Ace and first card played is not Trump Ace, play Trump King
            3. Play any Trump cards the player has
        b) No Trump card is played in this hand
            1. Play Trump two
            2. Play Trump Jack
    D. Other cases play a random card