

# Programming Test: Game of War

War is a two player card game in which a standard deck of 52 cards is split into two equal decks, one for each player. The Game of War has the following rules:

1. Cards are ranked, lowest-to-highest, in the following order:  
2, 3, 4, 5, 6, 7, 8, 9, 10, jack, queen, king, ace.
2. At the start of a round, *each player draws 1 card* from their deck and places it face-up in front of them.
3. The player that revealed the higher card wins that round.
4. If the players' cards are tied in value, this results in War.
5. During War, some of the rules change:
  - a. The given round does not end until War ends
  - b. Players continue to draw and compare cards, but *each player attempts to draw 2 cards*
  - c. Although two cards are drawn by each player, only the final card drawn by each player is used for comparison (all other drawn cards are 'waste' cards)
  - d. War ends when the compared cards are no longer tied in value.
  - e. In the event that a player runs completely out of cards (in both the draw and discard pile), they stop drawing and continue to compare using their most recently drawn card (i.e., the last card in their deck)
6. Round winners are awarded all drawn cards (both their own and their opponent's) and add them to their discard pile.
7. If at any point a player's draw pile runs out of cards they reshuffle their deck

For this programming test, we want you to implement a function that plays out a single round of the Game of War **strictly following the above rules**.

You have been provided:

- Deck API with the operations:
  - **Draw:** Remove and return the top Card from the Deck.
  - **Discard:** Add the given Card to the Deck's discard pile.
  - **Shuffle:** Combine the Deck's Draw and Discard pile then randomize their order.
  - **Size:** Query the remaining cards in a Deck and both of its piles.
- A main method with an instantiated Deck of 52 Cards which has been properly split into two decks of 26 cards ready for play.
- A playRound method that takes as parameters two Decks.
  - **You must implement and call this method to play a round of the Game of War when called.**