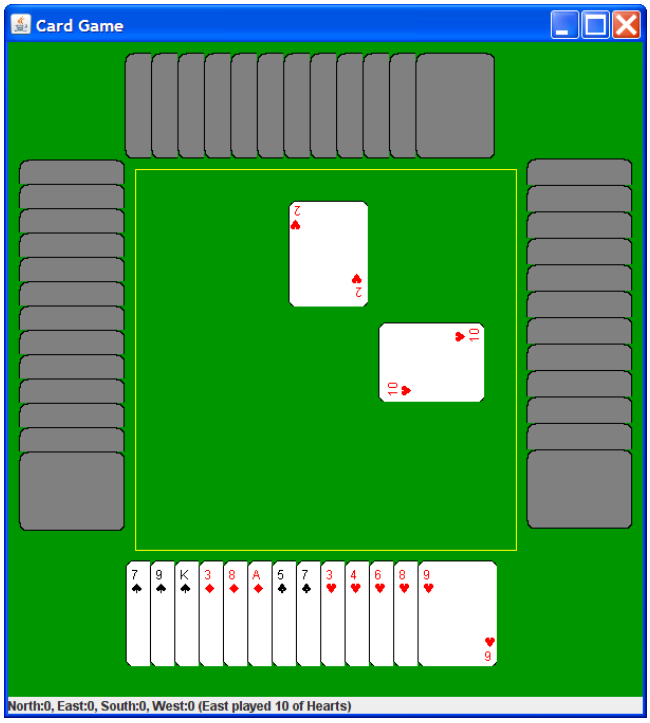
The Card Game

The `CardGame` system is a simple card game written in Java. The game implements some variations on the well-known *trick-taking card game*. For more on this style of game, see this:

`http://en.wikipedia.org/wiki/Trick-taking_game`

There are four players (North, East, South and West) and is dealt exactly 13 cards each (i.e. the whole deck). The game then proceeds in a series of *tricks*. In each trick the *leader* lays a card, and then the next player (following clockwise rotation) plays a card, and so on until four cards have been played. The following illustrates:



Here, we see that North and East have played and, hence, South is next to play. Since North lead with a Heart, and South has a Heart, then he/she must play one of the available hearts.

Artificial Intelligence

This part is concerned with the class `SimpleComputerPlayer`, which is currently mostly unimple-_ mented. This player_chooses what card to play based on the following rules:

- If the AI player can *potentially win* the trick, then it plays the *highest eligible card*.
- If the AI player *cannot win* the trick, then it *discards* the lowest eligible card.
- In the special case that the AI player *must win* the trick, then it conservatively plays the *least card* needed to win.

An important concept for understanding these rules is the *ordering of eligible cards*. A card is eligible if it may be played according to the rules of the game (e.g. if the AI player can follow suit then it must, etc). The highest eligible card is then the card with the *highest rank and suit*, where the current suit of trumps (if applicable) is always the highest suit. In the case of two equally ranked cards of non-trump suit, then the underlying ordering implied by `Card.compareTo()` (as discussed above) should be used to choose.