Title: Heuristic Learning Machine for the playing card game of Spades.

A short overview of the game:

Spades is a game played with two or more players with four players being the common group to play the game. Spades is a bidding game in which the player or team that scores 500 points wins. It starts with each player getting dealt 13 cards in the case of four players. After the cards have been dealt each person bids on the number of tricks they expect to win. A trick is four cards, one from each player. Where each player plays a suit of the same card as the person who leads the game with their card which can be any card. The player who plays the highest suit card wins the trick after everyone plays their cards. The game gets its name from the fact that a spade trumps any other suit. Scoring works by comparing the number of tricks a person or team won compared to their bid. So a person who bid 5 tricks would get 50 points if they won 5 tricks, 51 points if they won 6 because 50 for the bid and 1 for each additional trick. They would lose 50 points if they won 4 tricks.

Infrastructure:

The project will consist of building the framework to build a deck of playing cards, shuffle and deal hands to each of the players, and display the tricks and the points that each player has. A bidding system will be constructed as well to that a player can win.

Initial Players:

The initial players will be a random player at first then a heuristic player then a way for a person to play.

Since this is a two or more player game two random players will be the starting point then some combination of random, heuristic, and person playing. The goal is to support more players. Due to the nature of the game 4 players would be ideal with 2,3, or more than 4 require altering the deck to take away cards or adding more than one deck to play.