Task 1: Description of the game and Reasoning for this project

The following two sections are descriptors for my project as well as the rules that will be implemented in this project. I then follow with why I chose GOPS and my thoughts about the game.

Description of the Game:

Information on game of pure strategy (GOPS) broken down into parts.

Number of players- Two players at a minimum are required with a third optional. I will focus on implementing two players at the start. Later I might expand this to more than two players but initially there will just be two.

Dealing- Now that two players have been selected the standard deck has to be split to accommodate each player. This is done by sorting the deck into suits with one suit going to one player, another going to the other player, one discarded and the remaining is set aside.

The suit that is set aside is shuffled for play with the top card shown to both players (placed face up on a table).

Note: With more than two players the dealing would have to change according to the number of players. Three players would be easier in terms of dealing as the discarded suit would be used but scoring becomes challenging. With more than three players a lot more thought has to go into dealing and scoring.

Rules- The rules on how to play.

- There are 13 rounds.
- Each Player is given all the cards from one suit of the cards.
- Players can look at their cards to pick a card for each round.
- Each card has a point value associated with it.
 - Ace 1pt
 - 2 2pts
 - 3 3pts
 - 4 4pts
 - **5 5pts**
 - **6**−6pts
 - **7** 7pts
 - 0 8-8pts
 - o 9-9pts
 - 10 10pts

- Jack 11pts
- Queen 12pts
- King 13pts
- For each round each player will pick a card to put face down next to the face up card from the shuffled suit.
- After each player has put down their card the cards are then revealed (flipped) and compared in value.
- The player who puts down a card with higher point value wins the shuffled suit card which I shall call the prize card.
- The prize card's point value goes into the score of the player who put down the winning card.
- If both players put down the same card a tie has occurred and the way a tie shall be dealt with is the points will be split between each player. **Note**: There are other ways to deal with ties i.e. no player gets the points or the next round will decide the tie. If time permits, I shall implement other rules for ties that can be chosen.
- At the end of thirteen rounds all the prize cards each player has won are summed into a total and the player who has the highest total wins the game.

My reasoning for choosing GOPS:

First I must say that I think GOPS will be a great opportunity for me to learn some concepts related to AI during this semester. GOPS is a pretty straightforward game that will allow me to put my focus on developing heuristics and seeing the performance via analysis done. My hope is that I can write heuristics that after analysis will be interesting to me but also that I may attempt to implement other game playing algorithms that are presented during the semester with time being permitted.