The program can take a value from the command line argument (an integer) as a seed and use that seed to shuffle the deck. If no seed is inputted, a random seed is generated from the program to be used.

**All demos on this document are tested with seed = 1**

Upon launching the program, the user is prompted the following Query:



The program takes the first character from the user input as the answer.

By default, if the input is not ‘h’, the program will create a computer player. This query repeats 4 times for all 4 players.

Every round, the current cards played on the table is displayed in order of increasing rank along with the player’s hand and the legal plays they have. If it is the first turn, the only legal play is the 7 of Spades.

A screenshot of a computer

Description automatically generated with medium confidence

The round begins with first announcing the player starting the round

**Analysis of computer.in**

This demo input file is the game played by only computers. This file requires no other input other than the initial 4 prompts about whether the player is human or a computer. The computer algorithm behaves as the following:

If there are legal plays, play the first legal play. If there are no legal plays, discard the first card in your hand.

This can be tested through observing the computers behavior. For example: given the following plays:

Text

Description automatically generated

It can be observed that every computer will play the first cards listed under “Legal Plays” if there exists one and discard the first card listed under “Your hand” if there does not exist a legal play.

**Analysis of single\_player.in**

This file tests the behavior of player input given the following commands:

|  |  |  |
| --- | --- | --- |
| Test Case | Input Equivalent | Expected Outcome |
| Playing valid card | Play 8S | Prompt shows that that player plays that specific card |
| Discarding card valid | Discard 4C | Prompt shows that player discards that specific card |
| Playing invalid card | Play KH | Prompt shows that the card selected cannot be played  Asks for input again |
| Playing non-existing card | Play AS | Prompt shows that the card selected cannot be played  Asks for input again. |
| Discarding non-existing card | Discard 9H | Prompt shows that card selected is not in hand.  Asks for input again |
| Discarding card with legal plays | Discard 9C | Prompt show that player has legal plays.  Asks for input again |
| Showing Deck | deck | The game deck is outputted |
| Rage quit | ragequit | Prompt shows player+# has ragequit and computer will take over. Current and future rounds are then played by the computer |

**Currently, running the “quit” command while playing as a player will cause memory leaks.**

**For All demo tests:**

After the round is complete (when all players have no cards in their hands), the calculation is displayed and the player’s points are calculated:Text

Description automatically generated

The game endswhen at least one player’s score exceeds or equals 80 and the winner is calculated and outputted.

