Understanding the Problem

This assignment is asking me to create a game of go fish against a computer. The game needs to have a regular deck of cards. I will need to shuffle the deck of cards and deal 7 cards to each person at the start of the game. For the game, one player asks another player for a card in their hand. If the other player has that card, they must give them all of that ranked cards in their hand. If they successfully obtain a card from another player, they get another turn. If one player gets 4 cards of the same rank, they lay that down and it counts towards one of their books. The player at the end with the most books wins.

How to initialize the deck?
Since number is 0-51 I will go through each card and set to num % 13 + 1 = rank 1-13
or num/13 +1 = suit 1-4

Function add a card: add a card to players hand
Function remove a card: remove a card from a players hand or deck
Function steal card: add and remove functionality

Input/Output
The input will consist of an integer number for login, a string that will be checked against the user id's password on file, and various input for option choosing. The input also includes the name of two text files at runtime (./prog text.txt text.txt) The output will be various text to the terminal for options and error handling, and text files or text file edits.

Subtasks

I will need to:
Set up a deck of 52 cards and shuffle it
Deal the cards to 2 players
Play the game of go fish

- for each turn, I print the state of the game while hiding the computer's cards
- on the human players turn ask for a rank
- if computer has that rank, give it to the player, else say go fish and the player draws a card
- computer should randomly ask for a card in its hand

All these functions will need to me made with only one purpose in mind
I also need to create a way to play the game in "debug mode" so that I can see the computer's hand as well.

Program Design

Pseudocode

```
Main(int argc, char** argv){

Read in what mode was entered on command line
If(debug mode){
 run game with printing computers hand}
Else{ run normally}
```

Call create and call a game class and game.run function

In a separate file
Each separate file will contain its own class
Game class{
    Create deck of cards
    Assign players
    Function_run game //go through all functions to play the game
}

Player class{
    Create a hand
    Create number of books
    Create array of books

}

Variables to create:

I will need to initialize the variables in each class and then set them accordingly throughout the game. During a turn, I need to create new dynamic arrays and delete old ones or something similar to that to modify a player's hand of cards, books, and anything else. The deck of cards should change based on who is drawing from the deck or adding to the deck.

Decisions:

I will need to decide how the flow of the game will be and how I will create and call class functions accordingly. I need to decide how to dynamically change the array of cards that each person has in their hand. I will also need to decide how to setup the add card or remove card functions and how to initially shuffle the deck of cards.

Functions to handle simple error checking will be extremely useful. Functions to dynamically create a new deck of cards or copy constructors will be needed. I will need to make sure to modularize as much as possible to make the flow understandable during development.

Prompt	Input	Output
What card would you like to ask for?	2	Go fish (player draws a card)
What card would you like to ask for?	2	Dern (computer gives up all 2's it has and player gets another turn)
What card would you like to ask for?	fsdg	You don't have that card, try again
What card would you like to ask for?	555555	You don't have that card, try again
What card would you like to ask for?	asdd	You don't have that card, try again