

CSCI 211

Lab Project

Simulate the card game, Go Fish. (See rules below)

There should be 2 players, (you and the computer).

To accomplish this, the program should have the following classes:

- Card – a suit & a rank

- Hand – LinkedList of Cards

- Deck – Stack of Cards

- Player – a name, a Hand, points

- Game – array of Players, a Deck

Program and all methods should be well documented.

Go Fish!

Rules:

A standard 52 card deck is used.

7 cards are dealt to each player.

The remaining cards are left in the deck.

Players take turns asking each other for cards.

A turn consists of asking the other player for a specific rank. The player asking must already hold at least one card of the requested rank.

If the other player has cards of the specified rank, that player must give all of the cards of that rank to the player requesting them.

If the other player does not have any cards of the named rank, they should say 'Go fish!'

The requester must then draw the top card from the deck.

As soon as a player collects a book of 4 cards of the same rank, the cards should be displayed and discarded.

The game continues until either someone has no cards left in their hand or the deck is empty.

The winner is the player with the most books.

Text (Command Line) Implementation

```
*****
Computer [Books: 0]
3D 3C 3H 4S 4H 6H 9H 9C 10S 10D 10C JD QS QC QH AC AS
John, do you have any: 9
John says "No, Go Fish!!"
Book: [QC, QD, QH, QS]
Computer [Books: 1]
3D 3C 3H 4S 4H 6H 9H 9C 10S 10D 10C JD AC AS
*****
John [Books: 1]
2S 2C 2H 4C 5H 5S 5C 6D 6S 6C 8H 8D 10H JC JH KC KH
Computer, do you have any: 4
Computer says "Yes!!"
John [Books: 1]
2S 2C 2H 4C 4S 4H 5H 5S 5C 6D 6S 6C 8H 8D 10H JC JH KC KH
*****
Computer [Books: 1]
3D 3C 3H 6H 9H 9C 10S 10D 10C JD AC AS
John, do you have any: A
John says "No, Go Fish!!"
Computer [Books: 1]
3D 3C 3H 6H 8C 9H 9C 10S 10D 10C JD AC AS
*****
John [Books: 1]
2S 2C 2H 4C 4S 4H 5H 5S 5C 6D 6S 6C 8H 8D 10H JC JH KC KH
Computer, do you have any: 5
Computer says "No, Go Fish!!"
John [Books: 1]
2S 2C 2H 3S 4C 4S 4H 5H 5S 5C 6D 6S 6C 8H 8D 10H JC JH KC KH
*****
Computer [Books: 1]
3D 3C 3H 6H 8C 9H 9C 10S 10D 10C JD AC AS
John, do you have any: 10
John says "Yes!!"
Book: [10C, 10D, 10H, 10S]
Computer [Books: 2]
3D 3C 3H 6H 8C 9H 9C JD AC AS
*****
John [Books: 1]
2S 2C 2H 3S 4C 4S 4H 5H 5S 5C 6D 6S 6C 8H 8D JC JH KC KH
Computer, do you have any: 7
You must choose a rank that you have in your hand. Try again.
Computer, do you have any: k
Computer says "No, Go Fish!!"
John [Books: 1]
2S 2C 2H 3S 4C 4S 4H 5H 5S 5C 6D 6S 6C 8H 8D 8S JC JH KC KH
*****
Computer [Books: 2]
3D 3C 3H 6H 8C 9H 9C JD AC AS
John, do you have any: 3
John says "Yes!!"
```

Book: [3C, 3D, 3H, 3S]

Computer [Books: 3]

6H 8C 9H 9C JD AC AS

John [Books: 1]

2S 2C 2H 4C 4S 4H 5H 5S 5C 6D 6S 6C 8H 8D 8S JC JH KC KH

Computer, do you have any:

Your Driver class you **only** have the following:

```
#include "GoFish.h"

int main ()
{
    GoFish game;
    game.playGame ();
}
```