

Final Project Proposal

Card Games

(You Don't Need a Poker Face If You're Playing in Command Line)

Description:

Our dynamic duo wishes to propose a collection of card games for the command prompt. We would start out from a title screen that allows the user to choose the game they wish to play. Initially, **Blackjack** will be the only available game but later versions may include other games as well. The player would then play the chosen game against an AI that we program, or possibly even other player(s) at the same keyboard. The rules of the game will be printed out before playing any game in case the player does not know the rules. We might also include some tips to help the player during the game (this could be a sort of tutorial mode).

Card Deck

This is what the 52-card deck would look like:

♥ Hearts → [2♥] [3♥] [4♥] [5♥] [6♥] [7♥] [8♥] [9♥] [10♥] [J♥] [Q♥] [K♥] [A♥]
♠ Spades → [2♠] [3♠] [4♠] [5♠] [6♠] [7♠] [8♠] [9♠] [10♠] [J♠] [Q♠] [K♠] [A♠]
♦ Diamonds → [2♦] [3♦] [4♦] [5♦] [6♦] [7♦] [8♦] [9♦] [10♦] [J♦] [Q♦] [K♦] [A♦]
♣ Clubs → [2♣] [3♣] [4♣] [5♣] [6♣] [7♣] [8♣] [9♣] [10♣] [J♣] [Q♣] [K♣] [A♣]

Concepts Used

ArrayList → the deck would be an arraylist that can be shuffled around (randomized), and cards can be removed and added. The player's hand would also be an ArrayList.

Inheritance → there would be a superclass of CardGames that would include methods such as deck shuffle or deal and would extend into subclasses for each individual game that would include their own methods and instance variables.

Comparable → Comparable would be used to compare different cards, but compareTo would be overridden in each case because different card games would have different hierarchies

Recursion and Iteration → Each turn the player's hand will be redisplayed but with a potential change because of drawing a card and/or playing a card. Furthermore, the card table will also be displayed with all of the changes that have been made each turn

Possible Expansions

Later versions may include the addition of the following games:

- **Durak**

- **Nines**
- **War**
- **Poker**

Furthermore, we could turn the entire program into a virtual casino with the addition of money and betting.