Python Code:

import random

# --- Welcome and rules

print("Welcome to The Card Game!")

print("In this game, each player draws a card, the cards are compared and the winner takes both cards.")

print()

input("Press enter to continue.")

print()

# --- Authentication system

# Gets txt file of player details as a list as ["name, password", "name, password"...]

file = open("player\_list.csv")

player\_list = file.read().splitlines()

file.close()

# - Define an authenticator

def auth(name, password):

# Formats player details correctly

details = name + ", " + password

match = 0

# Searches player\_list for details. If found, make match = 1

for x in player\_list:

if x == details:

match = 1

# If no match was found

if match != 1:

print("Sorry, " + name + ", your username or password was incorrect.")

input("Press enter to exit.")

quit()

print()

print("Welcome " + name + "!")

print()

# - Authenticate players

p1Name = input("Player 1 please enter your name: ")

p1Pass = input("And your password: ")

auth(p1Name, p1Pass)

p2Name = input("Player 2 please enter your name: ")

p2Pass = input("And your password: ")

# Check that player 2 is a different person

if p2Name == p1Name:

print("Sorry, " + p2Name + ", but that's the same account as player 1.")

input("Press enter to exit.")

quit()

auth(p2Name, p2Pass)

# --- The game

# Get deck as a list as ["colour number", ...]

file = open("deck.txt")

deck = file.read().splitlines()

file.close()

random.shuffle(deck)

colourDict = {

'Red Black': 'Red',

'Black Red': 'Red',

'Yellow Red': 'Yellow',

'Red Yellow': 'Yellow',

'Black Yellow': 'Black',

'Yellow Black': 'Black'

}

def win(card\_list, player):

# Appends both cards to the winner's card stack

card\_list.append(p1ActiveCard)

card\_list.append(p2ActiveCard)

print(player + " won that hand!")

print()

input("Press enter to continue.")

print()

def colour\_compare(colour1, colour2):

colour = colour1 + " " + colour2

# Compares concatenated colour string with dictionary to get winning colour

colour\_win = colourDict.get(colour)

if colour\_win == colour1:

win(p1\_cards, p1Name)

else:

win(p2\_cards, p2Name)

# Initialises player's card stacks as empty

p1\_cards = []

p2\_cards = []

input("Let's begin the game!")

print()

# Loop until deck is empty

while len(deck) > 0:

# Both players take the top card

p1ActiveCard = deck[0]

del deck[0]

p2ActiveCard = deck[0]

del deck[0]

print(p1Name + " drew a " + p1ActiveCard)

print(p2Name + " drew a " + p2ActiveCard)

input("Press enter to continue.")

print()

p1Colour = p1ActiveCard.split(" ")[0]

p2Colour = p2ActiveCard.split(" ")[0]

# If colours are the same, largest number wins

if p1Colour == p2Colour:

p1Number = int(p1ActiveCard.split(" ")[1])

p2Number = int(p2ActiveCard.split(" ")[1])

if p1Number > p2Number:

win(p1\_cards, p1Name)

else:

win(p2\_cards, p2Name)

# If colours are different, call function

else:

colour\_compare(p1Colour, p2Colour)

print("All cards have been drawn!")

input("The winner is...")

print()

if len(p1\_cards) > len(p2\_cards):

winner = p1Name

winNum = len(p1\_cards)

win\_cards = p1\_cards

else:

winner = p2Name

winNum = len(p2\_cards)

win\_cards = p2\_cards

print(winner + "! With " + str(winNum) + " cards!")

print()

input("They had these cards:")

print()

for x in range(len(win\_cards)):

print(win\_cards[x])

print()

# Append score & player to scores.txt

file = open("scores.txt", "a")

file.write(str(winNum) + " " + winner + "\n")

file.close()

# Get scores.txt as list called scores\_all[] in the form ["score name", ...]

file = open("scores.txt")

scores\_all = file.read().splitlines()

file.close()

# Python will just sort the scores for me. Thanks guys!

scores\_high = sorted(scores\_all, reverse=True)

input("These were the high scores:")

print()

for x in range(5):

print(scores\_high[x])

print()

print("Thank you, " + p1Name + " and " + p2Name + ", for playing The Card Game!")

input("Goodbye!")

Pseudocode:

// --- Welcome

print("Welcome to The Card Game!")

print("In this game, each player draws a card, the cards are compared and the winner takes both cards.")

print()

input("Press enter to continue.")

print()

// --- Authentication system

file = openRead("player\_list.csv")

array player\_list = file.read().splitLines()

file.close()

function auth(name, password)

// Formats player details correctly

details = name + ", " + password

match = 0

// Searches player\_list for details. If found, make match = 1

for x in player\_list

if x == details then

match = 1

endif

next x

// If no match was found

if match != 1 then

print("Sorry, " + name + ", your username or password was incorrect.")

input("Press enter to exit.")

quit()

endif

print()

print("Welcome " + name + "!")

print()

endfunction

// - Authenticate players

p1Name = input("Player 1 please enter your name: ")

p1Pass = input("And your password: ")

auth(p1Name, p1Pass)

p2Name = input("Player 2 please enter your name: ")

p2Pass = input("And your password: ")

// Check that player 2 is a different person

if p2Name == p1Name

print("Sorry, " + p2Name + ", but that's the same account as player 1.")

input("Press enter to exit.")

quit()

endif

auth(p2Name, p2Pass)

// --- The game

// Get deck as a list as ["colour number", ...]

file = open("deck.txt")

array deck = file.read().splitLines()

file.close()

random.shuffle(deck)

function win(card\_list, player)

// Appends both cards to the winner's card stack

card\_list.append(p1ActiveCard)

card\_list.append(p2ActiveCard)

print(player + " won that hand!")

print()

input("Press enter to continue.")

print()

endfunction

function colour\_compare(colour1, colour2):

colour = colour1 + " " + colour2

switch colour:

case "Red Black":

colour\_win = "Red"

case "Black Red":

colour\_win = "Red"

case "Yellow Red":

colour\_win = "Yellow"

case "Red Yellow":

colour\_win = "Yellow"

case "Black Yellow":

colour\_win = "Black"

case "Yellow Black":

colour\_win = "Black"

endswitch

if colour\_win == colour1 then

win(p1\_cards, p1Name)

else

win(p2\_cards, p2Name)

endif

endfunction

// Initialises player's card stacks as empty

array p1\_cards = []

array p2\_cards = []

input("Let's begin the game!")

print()

// Loop until deck is empty

while deck.length > 0

// Both players take the top card

p1ActiveCard = deck[0]

del deck[0]

p2ActiveCard = deck[0]

del deck[0]

print(p1Name + " drew a " + p1ActiveCard)

print(p2Name + " drew a " + p2ActiveCard)

input("Press enter to continue.")

print()

p1Colour = p1ActiveCard.split(" ")[0]

p2Colour = p2ActiveCard.split(" ")[0]

// If colours are the same, largest number wins

if p1Colour == p2Colour then

p1Number = int(p1ActiveCard.split(" ")[1])

p2Number = int(p2ActiveCard.split(" ")[1])

if p1Number > p2Number then

win(p1\_cards, p1Name)

else

win(p2\_cards, p2Name)

endif

// If colours are different, call function

else

colour\_compare(p1Colour, p2Colour)

endif

endwhile

print("All cards have been drawn!")

input("The winner is...")

print()

if p1\_cards.length > p2\_cards.length then

winner = p1Name

winNum = p1\_cards.length

win\_cards = p1\_cards

else

winner = p2Name

winNum = p2\_cards.length

win\_cards = p2\_cards

endif

print(winner + "! With " + str(winNum) + " cards!")

print()

input("They had these cards:")

print()

for x in range(win\_cards.length)

print(win\_cards[x])

next x

print()

// Append score & player to scores.txt

file = openAppend("scores.txt")

file.write(str(winNum) + " " + winner + "\n")

file.close()

// Get scores.txt as list called scores\_all[] in the form ["score name", ...]

file = openRead("scores.txt")

array scores\_all = file.read().splitLines()

file.close()

scores\_high = sorted(scores\_all, reverse=True)

input("These were the high scores:")

print()

for x = 0 to 4

print(scores\_high[x])

next x

print()

print("Thank you, " + p1Name + " and " + p2Name + ", for playing The Card Game!")

input("Goodbye!")