Python Code:

import random  
  
  
def authenticate(name, password):  
 *"""Authorise player names and passwords."""* # 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(f"Sorry, {name}, your username or password was incorrect.")  
 input("Press enter to exit")  
 quit()  
  
 print()  
 print(f"Welcome {name}!")  
 print()  
  
  
def win\_hand(card\_list, player):  
 *"""Append cards to winner's stack and report win."""* # Appends both cards to the winner's card stack  
 card\_list.append(p1ActiveCard)  
 card\_list.append(p2ActiveCard)  
 print(f"{player} won that hand!")  
 print()  
 input("Press enter to continue")  
 print()  
  
  
def colour\_compare(colour1, colour2):  
 *"""Compare colours and declare winner."""* colour = f"{colour1} {colour2}"  
 # Compares concatenated colour string with dictionary to get winning colour  
 colour\_win = colourDict.get(colour)  
 if colour\_win == colour1:  
 win\_hand(p1\_cards, p1Name)  
 else:  
 win\_hand(p2\_cards, p2Name)  
  
  
# ===== 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"...]  
with open("player\_list.csv") as f:  
 player\_list = f.read().splitlines()  
  
# Authenticate players  
p1Name = input("Player 1 please enter your name: ")  
p1Pass = input("And your password: ")  
  
authenticate(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(f"Sorry, {p2Name}, but that's the same account as player 1.")  
 input("Press enter to exit")  
 quit()  
  
authenticate(p2Name, p2Pass)  
  
  
# ===== The game  
  
# Get deck as a list as ["colour number", ...]  
with open("deck.txt") as f:  
 deck = f.read().splitlines()  
  
random.shuffle(deck)  
  
colourDict = {  
 'Red Black': 'Red',  
 'Black Red': 'Red',  
 'Yellow Red': 'Yellow',  
 'Red Yellow': 'Yellow',  
 'Black Yellow': 'Black',  
 'Yellow Black': 'Black'  
}  
  
# 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(f"{p1Name} drew a {p1ActiveCard}")  
 print(f"{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\_hand(p1\_cards, p1Name)  
 else:  
 win\_hand(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(f"{winner}! With {winNum} cards!")  
print()  
  
input("They had these cards:")  
print()  
  
for i in win\_cards:  
 print(i)  
  
print()  
  
# Append score & player to scores.txt  
with open("scores.txt", "a") as f:  
 f.write(f"{winNum} {winner}\n")  
  
# Get scores.txt as list called scores\_all[] in the form ["score name", ...]  
with open("scores.txt") as f:  
 scores\_all = f.read().splitlines()  
  
# Python will just sort the scores for me. Thanks guys!  
scores\_high = sorted(scores\_all, reverse=True)  
  
input("These are the high scores:")  
print()  
for i in range(5):  
 print(scores\_high[i])  
  
print()  
print(f"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!")