Simulating a Blackjack card game - Akash Gupta

This note shows a Python program that simulates a **Blackjack** game. It allows users to make decisions on whether to hit or stay. Python's random number generator is used to generate random cards.

```
#playershand
import sys
import random

cardValues = [x for x in range(1,11)]
for x4 in range(3):
        cardValues.append(10)
for x2 in range(3):
    for x3 in range(1,11):
        cardValues.append(x3)
    for x4 in range(3):
        cardValues.append(10)

def prettyPrint(hand):
    for h in hand:
        print(h, end = '\t')
    print()
    return hand

dealer1st = random.choice(cardValues)
print("dealer's first card is: " , dealer1st)
print("----")
print("----")
dealer2nd = random.choice(cardValues)

def dealers_hand(cardValues, dealer1st, dealer2nd):
    dHand = []
    dHand.append(dealer1st)
    dHand.append(dealer2nd)
    print("dealers first hand: ")
    prettyPrint(dHand)
    print(sum(dHand))
    if dHand[-1] == 1:
        print("other possible sum: ")
        dHand[-1] = 11
        print(sum(dHand))
        dHand[-1] = int(input("treat this as 1 or 11? "))
        prettyPrint(dHand)
        print(sum(dHand))
        print("----")

    while True:
        if sum(dHand) >= 21:
            break
        hitMe = input("hit or stand ? (type 'y' for hit -- 'n' for stand)")
        if hitMe == 'n':
            break
        if hitMe == 'y':
            dHand.append(random.choice(cardValues))
        print("dealer hand is: ")
```

```
        prettyPrint(dHand)
        print("sum is: ")
        print(sum(dHand))
        if sum(dHand) >= 21:
            break
        if dHand[-1] == 1:
            print("other possible sum: ")
            dHand[-1] = 11
            print(sum(dHand))
            dHand[-1] = int(input("treat this as 1 or 11? "))
            prettyPrint(dHand)
            print(sum(dHand))
            print("----")
    print("----")
    print("your final hand : ")
    prettyPrint(dHand)
    if sum(dHand) == 21:
        print("blackjack hand!!!!")
    print(sum(dHand))
    return sum(dHand)


def players_hand(cardValues):
    pHand = []
    pHand.append(random.choice(cardValues))
    pHand.append(random.choice(cardValues))
    print("your first hand: ")
    print("--")
    prettyPrint(pHand)
    print("the sum till now: ")
    print(sum(pHand))
    print("--")
    if pHand[-1] == 1:
        print("----")
        print("other possible sum: ")
        pHand[-1] = 11
        print(sum(pHand))
        print("--")
        pHand[-1] = int(input("treat this as 1 or 11? "))
        prettyPrint(pHand)
        print("--")
        print(sum(pHand))
        print("--")

    while True:
        if sum(pHand) >= 21:
            break
        hitMe = input("hit or stand ? (type 'y' for hit -- 'n' for stand)")
        if hitMe == 'n':
            break
        if hitMe == 'y':
            pHand.append(random.choice(cardValues))
        print("your hand is: ")
```

```
        prettyPrint(pHand)
        print("--")
        print("sum is: ")
        print(sum(pHand))
        print("--")
        if sum(pHand) >= 21:
            break
        if pHand[-1] == 1:
            print("other possible sum: ")
            pHand[-1] = 11
            print(sum(pHand))
            print("--")
            pHand[-1] = int(input("treat this as 1 or 11? "))
            prettyPrint(pHand)
            print("--")
            print(sum(pHand))
            print("--")
    print("----")
    print("your final hand : ")
    prettyPrint(pHand)
    if sum(pHand) == 21:
        print("blackjack hand!!!!")
    print("--")
    print(sum(pHand))
    return sum(pHand)

game = True
p_hand = players_hand(cardValues)
if p_hand > 21:
    print("you lost the game!!")
    game = False
    exit(0)

if game == True:
    print("---------")
    d_hand = dealers_hand(cardValues, dealer1st, dealer2nd)

if p_hand <= 21:
    if (p_hand == 21) and (d_hand == 21):
        print("it is a blackjack draw, take your money back as it is")
    elif p_hand == d_hand:
        print("draw")
    elif (p_hand > d_hand) and (d_hand < 21):
        print("you won the game!!")
    elif (p_hand < d_hand) and (d_hand <= 21):
        print("you lost the game!!")
    elif d_hand > 21:
        print("you won the game!")
```

```
dealer's first card is:  7
----
----
your first hand:
--
```

```
10  5
the sum till now:
15
--


hit or stand ? (type 'y' for hit -- 'n' for stand) n


----
your final hand :
10  5
--
15
---------
dealers first hand:
7   1
8
other possible sum:
18


treat this as 1 or 11?  11


7   11
18
----


hit or stand ? (type 'y' for hit -- 'n' for stand) n


----
your final hand :
7   11
18
you lost the game!!
```