Day 11: Blackjack Capstone project

```
import random as rd
deck = {'A' : [1, 11], 2 : 2, 3 : 3, 4 : 4, 5 : 5, 6 : 6, 7 : 7, 8 : 8, 9 : 9, 10 : 10 , "J"
        "Q" : 10, "K" : 10}
deck_keys=list(deck)
deck_values=list(deck.values())
null_0=[0,0]
null_1=[1]
l0=[]
l1=[]

dealer_cards=[]

for i in null_0:
  l0.append(deck_keys[rd.randint(0,12)])


for i in l0:
  l1.append(deck.get(i))

#a=input("Do you want to play a game of Blackjack? Type 'y' or 'n':")

print(f"Your cards are: {l0}")
if [1,11] in l1:
  b=True
  a=int(input("Do you choose your A as a 1 or as 11? "))
  while b:
    if a==1:
      l1[l1.index([1,11])]=1
      b=False
    elif a==11:
      l1[l1.index([1,11])]=11
      b=False
    else:
      print("Don't cheat!")


score= sum(l1)
print(f"Your score is {score}")
```

```
     Your cards are: [6, 'J']
     Your score is 16
```

```
logo = """
.------.            _     _            _    _            _
|A_  _ |.         | |   | |          | |  (_)          | |
```

```
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`-----| \  / |     |_.__/|_|\__,_|\___|_|\_\ |\__,_|\___|_|\_\\
      |  \/ K|                             _/ |
      `------'                            |__/
"""
```

```
import random as rd

cards = [11, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 10, 10]
primal_flag = True
a=True

player_cards=[]

dealer_cards=[]
```

```
def compare(player, dealer):
  if player>21:
    print(f"Your final hand: {player_cards}, final score: ")
    primal_flag = False
  else:
    primal_flag = False
```

```
while a:
  if len(player_cards)<2:
    player_cards.append(cards[rd.randint(0,12)])
    dealer_cards.append(cards[rd.randint(0,12)])
  else:
    a = False

score_player=sum(player_cards)
score_dealer = sum(dealer_cards)

print(f"Your cards: {player_cards}, current score: {sum(player_cards)}")
print(f"Computer's first card: {dealer_cards[0]}")

#while primal_flag:
  #compare(score_player, score_dealer)
```

```
Your cards: [11, 10], current score: 21
Computer's first card: 4
```

```
import random as rd

cards = [11, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 10, 10]

player_cards=[]

dealer_cards=[]
def compare(player, dealer):
  if player>21:
    print(f"Your final hand: {player_cards}, final score: {}")
    primal_flag = False
  else:
    primal_flag = False

def blackjack():


  a=True
  b=True

  while a:
    if len(player_cards)<2:
      player_cards.append(cards[rd.randint(0,12)])
      dealer_cards.append(cards[rd.randint(0,12)])
    else:
      a = False
  print(logo)
  print(f"Your cards: {player_cards}, current score: {sum(player_cards)}")
  print(f"Computer's first card: {dealer_cards[0]}")
  q=input("Type 'y' to get another card, type 'n' to pass: ")
  if q != 'y':
    print(f"Your final hand: {player_cards}, final score: {sum(player_cards)}")
    if sum(dealer_cards)<=17 or sum(dealer_cards)>21:
      dealer_cards.append(cards[rd.randint(0,12)])
    print(f"Computer's final hand: {dealer_cards}, final score: {sum(dealer_cards)}")
    return

aa=input("Do you want to play a game of Blackjack? Type 'y' or 'n': ")
if aa != 'y':
  print('')
else:
  blackjack()
```

```
    Do you want to play a game of Blackjack? Type 'y' or 'n': y

    .------.            _     _            _    _            _
    |A_  _ |.          | |   | |          | |  (_)          | |
    |( \/ ).-----.     | |__ | | __ _  ___| | ___  __ _  ___| | __
    | \  /|K /\  |     | '_ \| |/ _` |/ __| |/ / |/ _` |/ __| |/ /
    |  \/ | /  \ |     | |_) | | (_| | (__|   <| | (_| | (__|   <
```

```
      `-----| \  / |     |_.__/|_|\__,_|\___|_|\_\ |\__,_|\___|_|\_\
            |  \/ K|                             _/ |
            `------'                            |__/

      Your cards: [10, 10], current score: 20
      Computer's first card: 10
      Type 'y' to get another card, type 'n' to pass: g
      Your final hand: [10, 10], final score: 20
      Computer's final hand: [10, 11], final score: 21
```

```
import random as rd

cards = [11, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 10, 10]



def calculate_score(list):
  if sum(list)==21 and len(list)==2:
    return 0
  if 11 in list and sum(list) > 21:
    list.remove(11)
    list.append(1)
  return sum(list)

def compare(user_score, computer_score):
  if user_score > 21 and computer_score > 21:
    return "Both went over. You lose "

  if user_score == computer_score:
    return "Draw"
  elif computer_score == 0:
    return 'The computer won has a blackjack'
  elif user_score == 0:
    return 'You won with a blackjack'
  elif user_score>21:
    return 'The computer won!'
  elif computer_score>21:
    return 'You won!'
  elif user_score > computer_score:
    return "You won!"
  else:
    return "You lost!"

def blackjack():
  print(logo)

  player_cards=[]

  dealer_cards=[]

  primal flag=True
```

```
  for i in range(2):
    player_cards.append(rd.choice(cards))
    dealer_cards.append(rd.choice(cards))

  while primal_flag:
    player_score = calculate_score(player_cards)
    dealer_score = calculate_score(dealer_cards)
    print(f"Your cards: {player_cards}, current score: {player_score}")
    print(f"Computer's first card: {dealer_cards[0]}")
    if dealer_score == 0 or player_score == 0 or player_score > 21:
      primal_flag = False
    else:
      q=input("Type 'y' to get another card, type 'n' to pass: ")
      if q != "y":
        primal_flag = False
      else:
        player_cards.append(rd.choice(cards))

  while dealer_score < 17 and dealer_score != 0:
    dealer_cards.append(rd.choice(cards))
    dealer_score = calculate_score(dealer_cards)
  print(f"   Your final hand: {player_cards}, final score: {player_score}")
  print(f"   Computer's final hand: {dealer_cards}, final score: {dealer_score}")
  print(compare(player_score, dealer_score))

while input("Do you want to play a game of Blackjack? Type 'y' or 'n': ") == "y":
  blackjack()
```

```
Do you want to play a game of Blackjack? Type 'y' or 'n': y

.------.            _     _            _    _            _
|A_  _ |.          | |   | |          | |  (_)          | |
|( \/ ).-----.     | |__ | | __ _  ___| | ___  __ _  ___| | __
| \  /|K /\  |     | '_ \| |/ _` |/ __| |/ / |/ _` |/ __| |/ /
|  \/ | /  \ |     | |_) | | (_| | (__|   <| | (_| | (__|   <
`-----| \  / |     |_.__/|_|\__,_|\___|_|\_\ |\__,_|\___|_|\_\
      |  \/ K|                            _/ |
      `------'                           |__/

Your cards: [3, 10], current score: 13
Computer's first card: 10
Type 'y' to get another card, type 'n' to pass: y
Your cards: [3, 10, 8], current score: 21
Computer's first card: 10
Type 'y' to get another card, type 'n' to pass: y
Your cards: [3, 10, 8, 10], current score: 31
Computer's first card: 10
   Your final hand: [3, 10, 8, 10], final score: 31
   Computer's final hand: [10, 2, 3, 10], final score: 25
```

```
Both went over. You lose
Do you want to play a game of Blackjack? Type 'y' or 'n': n
```

Colab paid products - Cancel contracts here

✓ 9s completed at 22:48

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