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In [20]: import random
for i in range(6):
    d1 = random.randint(1,6)
    print("outcome:")
    print(d1)
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```
outcome:
5
outcome:
2
outcome:
2
outcome:
3
outcome:
5
outcome:
2
```

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In [22]: from random import choice
from re import match
from re import search

# 52-deck of cards
deck_head = ['Club', 'Diamond', 'Heart', 'Spade']
deck = {'Club': ["2_C", "3_C", "4_C", "5_C", "6_C", "7_C", "8_C", "9_C",
'Diamond': ["2_D", "3_D", "4_D", "5_D", "6_D", "7_D", "8_D", "9_D",
'Heart': ["2_H", "3_H", "4_H", "5_H", "6_H", "7_H", "8_H", "9_H",
'Spade': ["2_S", "3_S", "4_S", "5_S", "6_S", "7_S", "8_S", "9_S",

# A Card Selection
def select_card(deck_head, deck):
    head = choice(deck_head)
    card = choice(deck[head])
    return card

# Cards to Numbers
def cards_to_num(A):
    new_A = []
    for n in A:
        if 'K' or 'Q' or 'J' or 'A' in n:
            matched = search('K', n)
            if matched: new_A.append('13')
            matched = search('Q', n)
            if matched: new_A.append('12')
            matched = search('J', n)
            if matched: new_A.append('11')
            matched = search('A', n)
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        if matched: new_A.append('1')
    matched = match(r"([0-9]+)", n)
    if matched:
        matched = match(r"([0-9]+)", n)
        new_A.append(matched.group(0))
    return new_A

# Count Pairs in Player's Set
def count_pairs(A):
    pairs, count = {}, 0
    for n in A:
        count_n = A.count(n)
        if n not in pairs: pairs[n] = count_n
    for k in pairs:
        if pairs[k] - 2 >= 0: count += 1
    return count

# Cards assignment to Players 1 and 2
def assign_card(deck_head, deck):
    A,B = [],[]
    [ A.append(select_card(deck_head, deck)) for c in range(11) ]
    [ B.append(select_card(deck_head, deck)) for c in range(11) ]
    print('Player1 cards:',A); print('Player2 cards:',B)
    A_cards_in_num = cards_to_num(A)
    B_cards_in_num = cards_to_num(B)
    A_pairs = count_pairs(A_cards_in_num)
    B_pairs = count_pairs(B_cards_in_num)
    print('Player1 pairs:',A_pairs); print('Player2 pairs:',B_pairs)
    return A_pairs, B_pairs

# Winners in 10 games
def winner(deck_head, deck):
    A_wins, B_wins, Both_wins = 0, 0, 0
    for turn in range(10):
        print("\nTurn :",turn+1)
        A, B = assign_card(deck_head, deck)
        if A > B: A_wins += 1; print('Player1 is the winner')
        elif A < B: B_wins += 1; print('Player2 is the winner')
        else: Both_wins += 1; print('Tie!')
    print("\nPlayer1 won:",A_wins,"times"); print("Player2 won:",B_wins,"")

winner(deck_head, deck)

```

```

Turn : 1
Player1 cards: ['9_C', '9_H', '3_D', '9_C', 'A_H', '3_C', '8_D', '3_D',
, '9_D', 'K_C', '4_S']
Player2 cards: ['8_C', '4_C', '3_H', 'J_C', 'A_H', '4_C', 'K_C', '5_D',
, '8_D', '10_D', '9_C']
Player1 pairs: 2
Player2 pairs: 2

```

Tie!

Turn : 2

Player1 cards: ['5\_S', '7\_H', '2\_D', 'K\_C', '9\_S', '5\_S', 'Q\_H', '10\_H', 'Q\_H', '8\_H', 'A\_S']

Player2 cards: ['5\_S', 'Q\_D', '9\_C', 'J\_C', '4\_S', 'A\_C', '2\_D', 'A\_H', '7\_S', '2\_D', 'Q\_H']

Player1 pairs: 2

Player2 pairs: 3

Player2 is the winner

Turn : 3

Player1 cards: ['9\_C', '4\_C', '8\_S', '8\_H', '5\_C', '5\_H', '3\_H', 'Q\_H', '10\_S', '9\_S', '3\_H']

Player2 cards: ['K\_D', '4\_S', 'A\_C', 'J\_H', '10\_D', '6\_C', 'A\_S', '6\_S', 'A\_H', 'A\_H', '5\_S']

Player1 pairs: 4

Player2 pairs: 2

Player1 is the winner

Turn : 4

Player1 cards: ['6\_S', '3\_H', '6\_S', '10\_D', '5\_D', '6\_S', '6\_H', '10\_D', '6\_C', '3\_C', '4\_C']

Player2 cards: ['J\_H', '5\_H', '8\_D', '4\_H', '9\_D', '2\_C', '8\_H', 'A\_H', '5\_S', '2\_C', '5\_D']

Player1 pairs: 3

Player2 pairs: 3

Tie!

Turn : 5

Player1 cards: ['J\_S', 'K\_D', 'J\_C', '8\_S', 'J\_H', '10\_C', '3\_H', '4\_D', '6\_C', '5\_S', '5\_S']

Player2 cards: ['8\_S', '8\_D', 'K\_H', 'A\_D', '8\_D', '10\_C', '10\_H', 'K\_H', '9\_S', '8\_D', 'Q\_S']

Player1 pairs: 2

Player2 pairs: 3

Player2 is the winner

Turn : 6

Player1 cards: ['6\_C', '6\_S', '10\_C', '9\_D', '9\_H', '7\_H', '4\_H', 'A\_D', 'Q\_S', '7\_C', '5\_D']

Player2 cards: ['A\_H', 'A\_S', 'K\_C', '3\_D', '3\_D', 'Q\_D', '5\_S', '3\_S', 'K\_S', 'Q\_D', 'K\_S']

Player1 pairs: 3

Player2 pairs: 4

Player2 is the winner

Turn : 7

Player1 cards: ['K\_H', '7\_S', '6\_S', '7\_H', 'Q\_C', '2\_H', '3\_H', '6\_D', '4\_C', 'K\_D', 'A\_S']

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Player2 cards: ['7_D', 'K_H', '2_D', 'K_H', '10_C', '9_C', '7_S', 'A_H',  
'Q_H', '4_C', '8_C']  
Player1 pairs: 3  
Player2 pairs: 2  
Player1 is the winner
```

Turn : 8

```
Player1 cards: ['2_H', '10_D', 'Q_D', 'K_H', '8_H', '8_S', '9_S', 'Q_S',  
'4_C', '2_H', '3_C']  
Player2 cards: ['10_S', '9_D', 'K_S', '9_S', 'Q_H', '2_D', '3_C', '2_H',  
'J_C', '10_D', 'J_H']  
Player1 pairs: 3  
Player2 pairs: 4  
Player2 is the winner
```

Turn : 9

```
Player1 cards: ['9_C', 'J_D', '9_D', '2_D', '5_H', '10_C', '10_H', 'Q_D',  
'Q_H', 'Q_H', 'A_H']  
Player2 cards: ['3_H', '5_D', '3_S', '4_C', '9_H', '8_C', '3_C', '2_D',  
'9_C', '4_C', '9_D']  
Player1 pairs: 3  
Player2 pairs: 3  
Tie!
```

Turn : 10

```
Player1 cards: ['4_D', '8_H', '5_D', '6_D', '4_H', '6_C', '5_H', '2_S',  
'9_C', '2_H', 'J_H']  
Player2 cards: ['8_D', '7_D', '8_D', '4_D', '8_C', '7_C', '10_C', '3_S',  
'9_H', 'A_H', '6_D']  
Player1 pairs: 4  
Player2 pairs: 2  
Player1 is the winner
```

Player1 won: 3 times

Player2 won: 4 times

Player1 and Player2 tied: 3 times