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In [ ]: import random
def generate_random_number(num_digits):
    return ''.join(random.sample('0123456789', num_digits))
def get_feedback(secret_number, guess):
    correct_digits = sum(1 for i, j in zip(secret_number, guess) if i == j)
    common_digits = len(set(secret_number) & set(guess))
    return correct_digits, common_digits - correct_digits
def play_mastermind():
    print("Welcome to the Mastermind game!")

    num_digits = int(input("Enter the number of digits for the secret number: "))
    secret_number = generate_random_number(num_digits)

    print("Player 1 has chosen a {}-digit number.".format(num_digits))

    attempts_player1 = 0
    attempts_player2 = 0

    while True:
        guess_player2 = input("Player 2, make a guess: ")
        attempts_player2 += 1

        if guess_player2 == secret_number:
            print("Player 2 is the Mastermind! They guessed the number in {} attempts".format(attempts_player2))
            break

        correct, misplaced = get_feedback(secret_number, guess_player2)
        print("Player 1's hint: {} correct, {} misplaced.".format(correct, misplaced))

        guess_player1 = input("Player 1, make a guess: ")
        attempts_player1 += 1

        if guess_player1 == secret_number:
            print("Player 1 is the Mastermind! They guessed the number in {} attempts".format(attempts_player1))
            break

        correct, misplaced = get_feedback(secret_number, guess_player1)
        print("Player 2's hint: {} correct, {} misplaced.".format(correct, misplaced))

    if attempts_player1 < attempts_player2:
        print("Player 1 is the overall Mastermind!")
    elif attempts_player2 < attempts_player1:
        print("Player 2 is the overall Mastermind!")
    else:
        print("It's a tie!")

if __name__ == "__main__":
    play_mastermind()

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Welcome to the Mastermind game!  
Enter the number of digits for the secret number: 5  
Player 1 has chosen a 5-digit number.  
Player 2, make a guess: 5  
Player 1's hint: 0 correct, 0 misplaced.  
Player 1, make a guess: 2  
Player 2's hint: 0 correct, 0 misplaced.  
Player 2, make a guess: 8  
Player 1's hint: 0 correct, 1 misplaced.  
Player 1, make a guess: 5  
Player 2's hint: 0 correct, 0 misplaced.  
Player 2, make a guess: 3  
Player 1's hint: 0 correct, 1 misplaced.  
Player 1, make a guess: 8  
Player 2's hint: 0 correct, 1 misplaced.
```

In []: