Mini project: Snake and ladder game

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Code:

```
import random
class SnakeAndLadder:
    def __init__(self, player_names):
        self.board_size = 100
        self.snakes = {16: 6, 47: 26, 49: 11, 56: 53, 62: 19, 64: 60, 87: 24, 93: 73, 95: 75, 98: 78}
        self.ladders = {1: 38, 4: 14, 9: 31, 21: 42, 28: 84, 36: 44, 51: 67, 71: 91, 80: 100}
        self.players = {name: 0 for name in player_names}
        self.turn_order = list(self.players.keys())
        self.winner = None

    def roll_dice(self):
        return random.randint(1, 6)

    def move_player(self, player):
        roll = self.roll_dice()
        print(f"{player} rolled a {roll}")
        new_position = self.players[player] + roll
        if new_position > self.board_size:
            print(f"{player} cannot move, position exceeds {self.board_size}.")
            return
        self.players[player] = new_position
        print(f"{player} moved to position {self.players[player]}")
        self.check_snakes_and_ladders(player)
```

```
    def check_snakes_and_ladders(self, player):
        if self.players[player] in self.snakes:
            print(f"Oops! {player} got bitten by a snake and moved back to {self.snakes[self.players[player]]}")
            self.players[player] = self.snakes[self.players[player]]
        elif self.players[player] in self.ladders:
            print(f"Yay! {player} climbed a ladder and moved up to {self.ladders[self.players[player]]}")
            self.players[player] = self.ladders[self.players[player]]

    def play_turn(self):
        for player in self.turn_order:
            if self.winner:
                break
            self.move_player(player)
            if self.players[player] == self.board_size:
                self.winner = player
                print(f"{player} wins the game!")
                break

    def start_game(self):
        print("Game started!")
        while not self.winner:
            self.play_turn()

if __name__ == "__main__":
    num_players = int(input("Enter number of players: "))
    player_names = [input(f"Enter name for Player {i+1}: ") for i in range(num_players)]
```

```
game = SnakeAndLadder(player_names)

game.start_game()
```

Output: