Tic-Tac-Toe

```
# Set up the game board as a 2D list
board = [["-", "-", "-"],
         ["-", "-", "-"],
         ["-", "-", "-"]]
# Define a function to print the game board
def print_board():
for row in board:
print(" | ".join(row))

# Define a function to handle a player's turn
def take_turn(player):
print(player + "'s turn.")
position = input("Choose a position from 1-9: ")
while position not in ["1", "2", "3", "4", "5", "6", "7", "8", "9"]:
position = input("Invalid input. Choose a position from 1-9: ")
position = int(position) - 1
row, col = divmod(position, 3)
while board[row][col] != "-":
position = int(input("Position already taken. Choose a different position: ")) - 1
row, col = divmod(position, 3)
board[row][col] = player
print_board()

# Define a function to check if the game is over
def check_game_over():
# Check for a win
for i in range(3):
if board[i][0] == board[i][1] == board[i][2] != "-":
return "win"
```

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if board[0][i] == board[1][i] == board[2][i] != "-":
return "win"
if board[0][0] == board[1][1] == board[2][2] != "-":
return "win"
if board[0][2] == board[1][1] == board[2][0] != "-":
return "win"
# Check for a tie
elif all(cell != "-" for row in board for cell in row):
return "tie"
# Game is not over
else:
return "play"
# Define the main game loop
def play_game():
print_board()
current_player = "X"
game_over = False
while not game_over:
take_turn(current_player)
game_result = check_game_over()
if game_result == "win":
print(current_player + " wins!")
game_over = True
elif game_result == "tie":
print("It's a tie!")
game_over = True
else:
# Switch to the other player
current_player = "O" if current_player == "X" else "X"
# Start the game
play_game()
```

Output:

```
- | - | -
- | - | -
- | - | -
X's turn.
Choose a position from 1-9: 9
- | - | -
- | - | -
- | - | X
O's turn.
Choose a position from 1-9: 3
- | - | O
- | - | -
- | - | X
X's turn.
Choose a position from 1-9: 4
- | - | O
X | - | -
- | - | X
O's turn.
Choose a position from 1-9: 5
- | - | O
X | O | -
- | - | X
X's turn.
Choose a position from 1-9: 2
- | X | O
X | O | -
- | - | X
O's turn.
Choose a position from 1-9: 2
Position already taken. Choose a different position: 4
Position already taken. Choose a different position: 8
- | X | O
X | O | -
- | O | X
X's turn.
Choose a position from 1-9: 1
X | X | O
X | O | -
- | O | X
O's turn.
Choose a position from 1-9: 6
X | X | O
X | O | O
- | O | X
X's turn.
```