

project.py X

C: > python code > project.py > check_winner

```
1  import random
2  def initialize_board(size):
3      return ["-" for _ in range(size)] for _ in range(size)
4
5  def print_board(board):
6      for row in board:
7          print(" | ".join(row))
8      print()
9
10 def check_winner(board, size):
11     for row in board:
12         if len(set(row)) == 1 and row[0] != "-":
13             return row[0]
14     for col in range(size):
15         if len(set(board[row][col] for row in range(size))) == 1 and board[0][col] != "-":
16             return board[0][col]
17     if len(set(board[i][i] for i in range(size))) == 1 and board[0][0] != "-":
18         return board[0][0]
19     if len(set(board[i][size - i - 1] for i in range(size))) == 1 and board[0][size - 1]
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19     if len(set(board[i][size - i - 1] for i in range(size))) == 1 and board[0][size - 1]
20         return board[0][size - 1]
21     return None
22
23 def play_game():
24     size = int(input("Enter board size (e.g., 3 for 3x3): "))
25     board = initialize_board(size)
26     players = ["X", "O"]
27     turn = 0
28     while "-" in [cell for row in board for cell in row]:
29         print_board(board)
30         player = players[turn % 2]
31         print(f"{player}'s turn.")
32         row, col = map(int, input("Enter row and column (e.g., 1 1): ").split())
33         while board[row - 1][col - 1] != "-":
34             row, col = map(int, input("Invalid move. Enter again: ").split())
35         board[row - 1][col - 1] = player
36         winner = check_winner(board, size)

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35         board[row - 1][col - 1] = player
36         winner = check_winner(board, size)
37         if winner:
38             print_board(board)
39             print(f"{winner} wins!")
40             return
41         turn += 1
42     print("It's a tie!")
43
44 play_game()
45
```