Week 2 Homework: Exercises 6-9

Homework due Jul 13, 2021 22:00 +06

Exercise 6

1/1 point (graded)

In exercises 6 through 9, we will make functions that check whether either player has won the game.

Make a function `row_win(board, player)` that takes the player (integer) and determines if any row consists of only their marker.

Have it return `True` if this condition is met and `False` otherwise.

Note that `board` is already defined as in Exercise 5. Call `row_win` to check if Player 1 has a complete row.

Does Player 1 have a complete row?

- ○ Yes
- ◉ No

✔

Submit You have used 1 of 1 attempt

✔ Correct (1/1 point)

Exercise 7

1/1 point (graded)

In exercises 6 through 9, we will make functions that check whether either player has won the game.

Make a function `col_win(board, player)` that takes the player (integer) and determines if any column consists of only their marker.

Have it return `True` if this condition is met and `False` otherwise.

Note that `board` is already defined as in Exercise 5. Call `col_win` to check if Player 1 has a complete column.

Does Player 1 have a complete column?

- ○ Yes
- ◉ No

✔

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Exercise 8

1/1 point (graded)

In exercises 6 through 9, we will make functions that check whether either player has won the game.

Finally, create a function `diag_win(board, player)` that takes the player (integer) and determines if any diagonal consists of only their marker.

Have it return `True` if this condition is met and `False` otherwise.

Note that `board` is modified from Exercise 5. Call `diag_win` to check if Player 2 has a complete diagonal.

Use this sample code to get started:

```
board[1,1] = 2
```

Does Player 2 have a complete diagonal?

- (●) Yes
- ( ) No

✔

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✔ Correct (1/1 point)

Exercise 9

1/1 point (graded)

In exercises 6 through 9, we will make functions that check whether either player has won the game.

Create a function `evaluate(board)` that uses `row_win`, `col_win`, and `diag_win` functions for both players. If one of them has won, return that player's number. If the board is full but no one has won, return -1. Otherwise, return 0.

Note that `board` is defined as in Exercise 8. Call `evaluate` to see if either player has won the game yet.

Use this sample code to get started:

```
    def evaluate(board):
winner = 0
for player in [1, 2]:
    # add your code here!
    pass
if np.all(board != 0) and winner == 0:
    winner = -1
return winner
```

Has anyone won the game yet?

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Yes, Player 1

Yes, Player 2

No

Submit

You have used 1 of 1 attempt

Correct (1/1 point)

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