import unittest

from TicTacToe import TicTacToe

class TestTicTacToe(unittest.TestCase):

def setUp(self):

self.game = TicTacToe()

def test\_init(self):

self.assertEqual(self.game.turn, 'X')

self.assertEqual(len(self.game.buttons), 9)

def test\_buttonClicked(self):

button = self.game.buttons[0]

button.setText('X')

self.game.buttonClicked(button)

self.assertEqual(self.game.turn, 'O')

self.assertEqual(button.text(), 'O')

def test\_checkForWin(self):

# Test a vertical win

buttons = self.game.buttons[:3]

for i in range(3):

buttons[i].setText('X')

self.game.checkForWin()

self.assertEqual(self.game.turn, 'O')

for button in buttons:

self.assertTrue(button.isEnabled())

# Test a horizontal win

buttons = self.game.buttons.tolist()

buttons[0].setText('X')

buttons[1].setText('X')

buttons[2].setText('X')

self.game.checkForWin()

self.assertEqual(self.game.turn, 'O')

for button in buttons[:3]:

self.assertTrue(button.isEnabled())

# Test a diagonal win

buttons[3].setText('X')

buttons[4].setText('X')

buttons[5].setText('X')

self.game.checkForWin()

self.assertEqual(self.game.turn, 'O')

for button in buttons[:3] + buttons[3:]:

self.assertTrue(button.isEnabled())

def test\_gameOver(self):

winner = 'X'

for button in self.game.buttons:

button.setText('X')

button.setEnabled(False)

self.game.gameOver(winner)

print(self.game.result)

self.assertEqual(self.game.result, 'X wins!')