import random

def drawBoard(board):

print(' | |')

print(' ' + board[7] + ' | ' + board[8] + ' | ' + board[9])

print(' | |')

print('-----------')

print(' | |')

print(' ' + board[4] + ' | ' + board[5] + ' | ' + board[6])

print(' | |')

print('-----------')

print(' | |')

print(' ' + board[1] + ' | ' + board[2] + ' | ' + board[3])

print(' | |')

def inputPlayerLetter():

letter = ''

while not (letter == 'X' or letter == 'O'):

print('Do you want to be X or O?')

letter = input().upper()

if letter == 'X':

return ['X', 'O']

else:

return ['O', 'X']

def whoGoesFirst():

if random.randint(0, 1) == 0:

return 'computer'

else:

return 'player'

def playAgain():

print('Do you want to play again? (yes or no)')

return input().lower().startswith('y')

def makeMove(board, letter, move):

board[move] = letter

def isWinner(bo, le):

return ((bo[7] == le and bo[8] == le and bo[9] == le) or

(bo[4] == le and bo[5] == le and bo[6] == le) or

(bo[1] == le and bo[2] == le and bo[3] == le) or

(bo[7] == le and bo[4] == le and bo[1] == le) or

(bo[8] == le and bo[5] == le and bo[2] == le) or

(bo[9] == le and bo[6] == le and bo[3] == le) or

(bo[7] == le and bo[5] == le and bo[3] == le) or

(bo[9] == le and bo[5] == le and bo[1] == le))

def getBoardCopy(board):

dupeBoard = []

for i in board:

dupeBoard.append(i)

return dupeBoard

def isSpaceFree(board, move):

return board[move] == ' '

def getPlayerMove(board):

move = ' '

while move not in '1 2 3 4 5 6 7 8 9'.split() or not isSpaceFree(board, int(move)):

print('What is your next move? (1-9)')

move = input()

return int(move)

def chooseRandomMoveFromList(board, movesList):

possibleMoves = []

for i in movesList:

if isSpaceFree(board, i):

possibleMoves.append(i)

if len(possibleMoves) != 0:

return random.choice(possibleMoves)

else:

return None

def getComputerMove(board, computerLetter):

if computerLetter == 'O':

playerLetter = 'X'

else:

playerLetter = 'O'

for i in range(1, 10):

copy = getBoardCopy(board)

if isSpaceFree(copy, i):

makeMove(copy, computerLetter, i)

if isWinner(copy, computerLetter):

return i

for i in range(1, 10):

copy = getBoardCopy(board)

if isSpaceFree(copy, i):

makeMove(copy, playerLetter, i)

if isWinner(copy, playerLetter):

return i

move = chooseRandomMoveFromList(board, [1, 3, 7, 9])

if move != None:

return move

if isSpaceFree(board, 5):

return 5

return chooseRandomMoveFromList(board, [2, 4, 6, 8])

def isBoardFull(board):

for i in range(1, 10):

if isSpaceFree(board, i):

return False

return True

print('Hey, welcome to Tic Tac Toe!')

while True:

theBoard = [' '] \* 10

playerLetter, computerLetter = inputPlayerLetter()

turn = whoGoesFirst()

print('The ' + turn + ' will go first.')

gameIsPlaying = True

while gameIsPlaying:

if turn == 'player':

drawBoard(theBoard)

move = getPlayerMove(theBoard)

makeMove(theBoard, playerLetter, move)

if isWinner(theBoard, playerLetter):

drawBoard(theBoard)

print('Great you have won the game!')

gameIsPlaying = False

else:

if isBoardFull(theBoard):

drawBoard(theBoard)

print('The game is a draw!')

break

else:

turn = 'computer'

else:

move = getComputerMove(theBoard, computerLetter)

makeMove(theBoard, computerLetter, move)

if isWinner(theBoard, computerLetter):

drawBoard(theBoard)

print('The computer has beaten you! You lose.')

gameIsPlaying = False

else:

if isBoardFull(theBoard):

drawBoard(theBoard)

print('The game is a tie!')

break

else:

turn = 'player'

if not playAgain():

break