Tic Tac Toe Python Coded Game

Chris Afarian, Xavier Backus

Team 1  
IS201- Fundamentals of Computing

[afarianchris@cityuniversity.edu](mailto:afarianchris@cityuniversity.edu)

[backusxavier@cityuniversity.edu](mailto:backusxavier@cityuniversity.edu)

**PseudoCode**

# Pseudocode for Tic-Tac-Toe Game

# Initialize the game board

Create an empty 3x3 board

# Choose the first player

Prompt the user with "Would you like to play first? (yes/no)"

If the user selects "yes":

FirstPlayer = User

SecondPlayer = Computer

Else:

FirstPlayer = Computer

SecondPlayer = User

# Assign 'X' or 'O' to the user

If FirstPlayer == User:

UserMarker = 'X'

ComputerMarker = 'O'

Else:

UserMarker = 'O'

ComputerMarker = 'X'

# Initialize the game state variables

CurrentPlayer = FirstPlayer

GameIsOver = False

Winner = None

# Loop until the game is over

While not GameIsOver:

# Display the board

DisplayBoard()

# Get the next move from the current player

If CurrentPlayer == User:

UserMove = GetUserMove()

ValidMove = ValidateMove(UserMove)

If not ValidMove:

DisplayErrorMessage("Invalid input. Try again.")

Continue # Skip the rest of the loop and ask the user for input again

Else:

If Computer can select a position based on an algorithm:

ComputerMove = CalculateComputerMove()

Else:

ComputerMove = RandomComputerMove()

# Update the board with the player's move

UpdateBoard(CurrentPlayer, UserMove or ComputerMove)

# Check if there is a winner

Winner = CheckWinner()

If Winner:

DisplayWinnerMessage(Winner)

GameIsOver = True

ElseIf BoardIsFull():

DisplayDrawMessage()

GameIsOver = True

Else:

SwitchPlayers()

# Log the game moves to tictactoe.txt

LogGameMoves()

# End of the game

Exit()

# Functions (not shown in pseudocode)

# - DisplayBoard

# - GetUserMove

# - ValidateMove

# - CalculateComputerMove

# - RandomComputerMove

# - UpdateBoard

# - CheckWinner

# - DisplayWinnerMessage

# - DisplayDrawMessage

# - BoardIsFull

# - SwitchPlayers

# - LogGameMoves