TIC TAC TOE

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PLAYER1 – O

PLAYER2 – X

Code

classdef TTT < matlab.apps.AppBase

% Properties that correspond to app components

properties (Access = public)

UIFigure matlab.ui.Figure

Button\_1 matlab.ui.control.Button

WelcometoTicTacToe matlab.ui.control.Label

Button\_2 matlab.ui.control.Button

Button\_3 matlab.ui.control.Button

Button\_4 matlab.ui.control.Button

Button\_5 matlab.ui.control.Button

Button\_6 matlab.ui.control.Button

Button\_7 matlab.ui.control.Button

Button\_8 matlab.ui.control.Button

Button\_9 matlab.ui.control.Button

NewGameButton matlab.ui.control.Button

end

properties (Access = public)

Player % 1 for Player1, 2 for Player 2

mat % for matrix

end

methods (Access = public)

function won = tictactoe(app,m)

if (m(1,1) == m(1,2) && m(1,1) == m(1,3) && m(1,1) ~= -1)

won = m(1,1);

elseif (m(2,1) == m(2,2) && m(2,1) == m(2,3) && m(2,1) ~= -1)

won = m(2,1);

elseif (m(3,1) == m(3,2) && m(3,1) == m(3,3) && m(3,1) ~= -1)

won = m(3,1);

% Vertical

elseif (m(1,1) == m(2,1) && m(1,1) == m(3,1) && m(3,1) ~= -1)

won = m(1,1);

elseif (m(1,2) == m(2,2) && m(1,2) == m(3,2) && m(1,2) ~= -1)

won = m(1,2);

elseif (m(1,3) == m(2,3) && m(1,3) == m(3,3) && m(1,3) ~= -1)

won = m(1,3);

% Diagonal

elseif (m(1,1) == m(2,2) && m(1,1) == m(3,3) && m(1,1) ~= -1)

won = m(1,1);

elseif (m(1,3) == m(2,2) && m(1,3) == m(3,1) && m(2,2) ~= -1)

won = m(1,3);

% If no more slots are open, it's a tie

elseif ~ismember(m, -1)

won = 0;

else

won = -1;

end

if won == 1

app.WelcometoTicTacToe.Text ='PLAYER 1 WINS ';

startupFcn(app)

elseif won == 2

app.WelcometoTicTacToe.Text ='PLAYER 2 WINS';

startupFcn(app)

elseif won == 0

app.WelcometoTicTacToe.Text ='DRAW...';

end

end

end

methods (Access = private)

% Code that executes after component creation

function startupFcn(app)

app.Button\_1.Enable = 'off';

app.Button\_2.Enable = 'off';

app.Button\_3.Enable = 'off';

app.Button\_4.Enable = 'off';

app.Button\_5.Enable = 'off';

app.Button\_6.Enable = 'off';

app.Button\_7.Enable = 'off';

app.Button\_8.Enable = 'off';

app.Button\_9.Enable = 'off';

end

% Button pushed function: NewGameButton

function NewGameButtonPushed(app, event)

app.Button\_1.Enable = 'on';

app.Button\_2.Enable = 'on';

app.Button\_3.Enable = 'on';

app.Button\_4.Enable = 'on';

app.Button\_5.Enable = 'on';

app.Button\_6.Enable = 'on';

app.Button\_7.Enable = 'on';

app.Button\_8.Enable = 'on';

app.Button\_9.Enable = 'on';

app.Button\_1.Text = '-';

app.Button\_2.Text = '-';

app.Button\_3.Text = '-';

app.Button\_4.Text = '-';

app.Button\_5.Text = '-';

app.Button\_6.Text = '-';

app.Button\_7.Text = '-';

app.Button\_8.Text = '-';

app.Button\_9.Text = '-';

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

app.Player = 1;

app.mat = -1\* ones(3,3);

end

% Button pushed function: Button\_1

function Button\_1Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_1.Text = 'O';

app.mat(1,1) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_1.Text = 'X';

app.mat(1,1) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_1.Enable = 'off';

tictactoe(app,app.mat);

end

% Button pushed function: Button\_2

function Button\_2Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_2.Text = 'O';

app.mat(1,2) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_2.Text = 'X';

app.mat(1,2) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_2.Enable = 'off';

tictactoe(app,app.mat);

end

% Button pushed function: Button\_3

function Button\_3Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_3.Text = 'O';

app.mat(1,3) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_3.Text = 'X';

app.mat(1,3) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_3.Enable = 'off';

tictactoe(app,app.mat);

end

% Button pushed function: Button\_4

function Button\_4Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_4.Text = 'O';

app.mat(2,1) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_4.Text = 'X';

app.mat(2,1) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_4.Enable = 'off';

tictactoe(app,app.mat);

end

% Button pushed function: Button\_5

function Button\_5Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_5.Text = 'O';

app.mat(2,2) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_5.Text = 'X';

app.mat(2,2) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_5.Enable = 'off';

tictactoe(app,app.mat);

end

% Button pushed function: Button\_6

function Button\_6Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_6.Text = 'O';

app.mat(2,3) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_6.Text = 'X';

app.mat(2,3) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_6.Enable = 'off';

tictactoe(app,app.mat);

end

% Button pushed function: Button\_7

function Button\_7Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_7.Text = 'O';

app.mat(3,1) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_7.Text = 'X';

app.mat(3,1) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_7.Enable = 'off';

tictactoe(app,app.mat);

end

% Button pushed function: Button\_8

function Button\_8Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_8.Text = 'O';

app.mat(3,2) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_8.Text = 'X';

app.mat(3,2) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_8.Enable = 'off';

tictactoe(app,app.mat);

end

% Button pushed function: Button\_9

function Button\_9Pushed(app, event)

if app.Player == 1

app.Player = 2;

app.Button\_9.Text = 'O';

app.mat(3,3) = 1;

app.WelcometoTicTacToe.Text = 'PLAYER 2 TURN';

else

app.Player = 1;

app.Button\_9.Text = 'X';

app.mat(3,3) = 2;

app.WelcometoTicTacToe.Text = 'PLAYER 1 TURN';

end

app.Button\_9.Enable = 'off';

tictactoe(app,app.mat);

end

end

% App initialization and construction

methods (Access = private)

% Create UIFigure and components

function createComponents(app)

% Create UIFigure

app.UIFigure = uifigure;

app.UIFigure.Position = [100 500 640 480];

app.UIFigure.Color = [0.82, 0.54,0.54];

app.UIFigure.Name = 'TIC TAC TOE';

% Create Button\_1

app.Button\_1 = uibutton(app.UIFigure, 'push');

app.Button\_1.ButtonPushedFcn = createCallbackFcn(app, @Button\_1Pushed, true);

app.Button\_1.BackgroundColor = [1.00,1.00,1.00];

app.Button\_1.Position = [98 371 115 62];

app.Button\_1.Text = '-';

app.Button\_1.FontSize = 35;

app.WelcometoTicTacToe = uilabel(app.UIFigure);

app.WelcometoTicTacToe.Position = [5 455 222 26];

app.WelcometoTicTacToe.Text = 'WELCOME PLAYERS..';

app.WelcometoTicTacToe.FontSize = 20;

app.WelcometoTicTacToe.FontColor = [1 1 1];

% Create Button\_2

app.Button\_2 = uibutton(app.UIFigure, 'push');

app.Button\_2.ButtonPushedFcn = createCallbackFcn(app, @Button\_2Pushed, true);

app.Button\_2.BackgroundColor = [1.00,1.00,1.00];

app.Button\_2.Position = [251 371 121 62];

app.Button\_2.Text = '-';

app.Button\_2.FontSize = 35;

% Create Button\_3

app.Button\_3 = uibutton(app.UIFigure, 'push');

app.Button\_3.ButtonPushedFcn = createCallbackFcn(app, @Button\_3Pushed, true);

app.Button\_3.BackgroundColor = [1.00,1.00,1.00];

app.Button\_3.Position = [399 371 120 62];

app.Button\_3.Text = '-';

app.Button\_3.FontSize = 35;

% Create Button\_4

app.Button\_4 = uibutton(app.UIFigure, 'push');

app.Button\_4.ButtonPushedFcn = createCallbackFcn(app, @Button\_4Pushed, true);

app.Button\_4.BackgroundColor = [1.00,1.00,1.00];

app.Button\_4.Position = [98 288 115 64];

app.Button\_4.Text = '-';

app.Button\_4.FontSize = 35;

% Create Button\_5

app.Button\_5 = uibutton(app.UIFigure, 'push');

app.Button\_5.ButtonPushedFcn = createCallbackFcn(app, @Button\_5Pushed, true);

app.Button\_5.BackgroundColor = [1.00,1.00,1.00];

app.Button\_5.Position = [251 288 119 65];

app.Button\_5.Text = '-';

app.Button\_5.FontSize = 35;

% Create Button\_6

app.Button\_6 = uibutton(app.UIFigure, 'push');

app.Button\_6.ButtonPushedFcn = createCallbackFcn(app, @Button\_6Pushed, true);

app.Button\_6.BackgroundColor = [1.00,1.00,1.00];

app.Button\_6.Position = [399 291 120 62];

app.Button\_6.Text = '-';

app.Button\_6.FontSize = 35;

% Create Button\_7

app.Button\_7 = uibutton(app.UIFigure, 'push');

app.Button\_7.ButtonPushedFcn = createCallbackFcn(app, @Button\_7Pushed, true);

app.Button\_7.BackgroundColor = [1.00,1.00,1.00];

app.Button\_7.Position = [98 206 115 66];

app.Button\_7.Text = '-';

app.Button\_7.FontSize = 35;

% Create Button\_8

app.Button\_8 = uibutton(app.UIFigure, 'push');

app.Button\_8.ButtonPushedFcn = createCallbackFcn(app, @Button\_8Pushed, true);

app.Button\_8.BackgroundColor = [1.00,1.00,1.00];

app.Button\_8.Position = [251 205 119 65];

app.Button\_8.Text = '-';

app.Button\_8.FontSize = 35;

% Create Button\_9

app.Button\_9 = uibutton(app.UIFigure, 'push');

app.Button\_9.ButtonPushedFcn = createCallbackFcn(app, @Button\_9Pushed, true);

app.Button\_9.BackgroundColor = [1.00,1.00,1.00];

app.Button\_9.Position = [399 205 120 67];

app.Button\_9.Text = '-';

app.Button\_9.FontSize = 35;

% Create NewGameButton

app.NewGameButton = uibutton(app.UIFigure, 'push');

app.NewGameButton.ButtonPushedFcn = createCallbackFcn(app, @NewGameButtonPushed, true);

app.NewGameButton.Position = [224,120,193,33];

app.NewGameButton.Text = 'New Game';

app.NewGameButton.FontSize = 20;

end

end

methods (Access = public)

% Construct app

function app = TTT

% Create and configure components

createComponents(app)

% Register the app with App Designer

registerApp(app, app.UIFigure)

% Execute the startup function

runStartupFcn(app, @startupFcn)

if nargout == 0

clear app

end

end

% Code that executes before app deletion

function delete(app)

% Delete UIFigure when app is deleted

delete(app.UIFigure)

end

end

end

Output





