```matlab
classdef piano_fina_proj < matlab.apps.AppBase

    % Properties that correspond to app components
    properties (Access = public)
        UIFigure                        matlab.ui.Figure
        EnteracustomsongfilenameEditField   matlab.ui.control.EditField
        EnteracustomsongfilenameEditFieldLabel   matlab.ui.control.Label
        PLAYCUSTOMSONGButton    matlab.ui.control.Button
        SAVEButton              matlab.ui.control.Button
        RECORDMODECheckBox      matlab.ui.control.CheckBox
        PLAYButton              matlab.ui.control.Button
        FS5Button               matlab.ui.control.Button
        DS5Button               matlab.ui.control.Button
        CS5Button               matlab.ui.control.Button
        G5Button                matlab.ui.control.Button
        F5Button                matlab.ui.control.Button
        E5Button                matlab.ui.control.Button
        D5Button                matlab.ui.control.Button
        C5Button                matlab.ui.control.Button
        PremadesongsListBox     matlab.ui.control.ListBox
        AS4Button               matlab.ui.control.Button
        GS4Button               matlab.ui.control.Button
        FS4Button               matlab.ui.control.Button
        DS4Button               matlab.ui.control.Button
        CS4Button               matlab.ui.control.Button
        AS3Button               matlab.ui.control.Button
        GS3Button               matlab.ui.control.Button
        FS3Button               matlab.ui.control.Button
        DS3Button               matlab.ui.control.Button
        CS3Button               matlab.ui.control.Button
        B4Button                matlab.ui.control.Button
        A4Button                matlab.ui.control.Button
        G4Button                matlab.ui.control.Button
        F4Button                matlab.ui.control.Button
        E4Button                matlab.ui.control.Button
        D4Button                matlab.ui.control.Button
        C4Button                matlab.ui.control.Button
        B3Button                matlab.ui.control.Button
        A3Button                matlab.ui.control.Button
        G3Button                matlab.ui.control.Button
        F3Button                matlab.ui.control.Button
        E3Button                matlab.ui.control.Button
        D3Button                matlab.ui.control.Button
        C3Button                matlab.ui.control.Button
        Image                   matlab.ui.control.Image
    end


    properties (Access = private) %properties for the app
        samplefreq = 44100;
        time = 4;
        song = {};
        rec = 0;
        autoSong = 0;
        currentPause = 0;
        Property5 % Description
    end

    methods (Access = private)



    function wave = wavefunc(app,notenum,time)
        t = 0:1/app.samplefreq:4/time;
        %Formula to determine frequency of anote from its notenumber
        freq = 440*2^((notenum-49)/12);
        %Code to waves to simulate the sound of a piano
        wave = sin(1* 2 * pi *freq * t) .* exp(-0.0004 * 2 * pi * freq * t) / 1;
        wave = wave+sin(2* 2 * pi *freq * t) .* exp(-0.0004 * 2 * pi * freq * t) / 2;
        wave = wave+sin(3* 2 * pi *freq * t) .* exp(-0.0004 * 2 * pi * freq * t) / 4;
        wave = wave+sin(4* 2 * pi *freq * t) .* exp(-0.0004 * 2 * pi * freq * t) / 8;
        wave = wave+sin(5* 2 * pi *freq * t) .* exp(-0.0004 * 2 * pi * freq * t) / 16;
        wave = wave+sin(6* 2 * pi *freq * t) .* exp(-0.0004 * 2 * pi * freq * t) / 32;
        wave= wave+(wave.*wave.*wave);
        wave=wave/6;
    end

    function readFromExcel(app,file) %this function receives a file name and opens it.
        if(file == 0)
            warning("Null input file!");
            return;
        end

        try %try catch block so no invalid file will enter
```

```matlab
        C = readcell(file);
catch
    warning("ERROR OPENING FILE! PLEASE TRY AGAIN!");
    return;
end
index = 1; %index variable for cell array
while index < length(C)

    currentNote = C{index,1}; %The current note to be played
    app.currentPause = C{index,2};%how long the note needs to be played
    switch currentNote %switch case block that activates current notes sound function

        case 'C3'
            C3ButtonPushed(app,0);

        case 'D3'
            D3ButtonPushed(app,0);

        case 'E3'
            E3ButtonPushed(app,0);

        case 'F3'
            F3ButtonPushed(app,0);

        case 'G3'
            G3ButtonPushed(app,0);

        case 'A3'
            A3ButtonPushed(app,0);

        case 'B3'
            B3ButtonPushed(app,0);

        case 'C4'
            C4ButtonPushed(app,0);

        case 'D4'
            D4ButtonPushed(app,0);

        case 'E4'
            E4ButtonPushed(app,0);

        case 'F4'
            F4ButtonPushed(app,0);

        case 'G4'
            G4ButtonPushed(app,0);

        case 'A4'
            A4ButtonPushed(app,0);

        case 'B4'
            B4ButtonPushed(app,0);

        case 'C5'
            C5ButtonPushed(app,0);

        case 'D5'
            D5ButtonPushed(app,0);

        case 'E5'
            E5ButtonPushed(app,0);

        case 'F5'
            F5ButtonPushed(app,0);

        case 'G5'
            G5ButtonPushed(app,0);

        case 'A5'
            A5ButtonPushed(app,0);

        case 'B5'
            B5ButtonPushed(app,0);

        case 'CS3'
            CS3ButtonPushed(app,0);

        case 'DS3'
            DS3ButtonPushed(app,0);

        case 'FS3'
            FS3ButtonPushed(app,0);

        case 'GS3'
            GS3ButtonPushed(app,0);
```

```matlab
            case 'AS3'
                AS3ButtonPushed(app,0);

            case 'CS4'
                CS4ButtonPushed(app,0);

            case 'DS4'
                DS4ButtonPushed(app,0);

            case 'FS4'
                FS4ButtonPushed(app,0);

            case 'GS4'
                GS4ButtonPushed(app,0);

            case 'AS4'
                AS4ButtonPushed(app,0);

            case 'CS5'
                CS5ButtonPushed(app,0);

            case 'DS5'
                DS5ButtonPushed(app,0);

            case 'FS5'
                FS5ButtonPushed(app,0);

            otherwise
                warning('no note has been found');


        end
        index = index + 1;
    end



    end
end


% Callbacks that handle component events
methods (Access = private)

    % Button pushed function: C3Button
    function C3ButtonPushed(app, event)
        notenum=28;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'C3'];
        end
    end

    % Button pushed function: D3Button
    function D3ButtonPushed(app, event)
        notenum=30;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'D3'];
        end
    end

    % Button pushed function: E3Button
    function E3ButtonPushed(app, event)
        notenum=32;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'E3'];
        end
    end

    % Button pushed function: F3Button
    function F3ButtonPushed(app, event)
        notenum=33;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'F3'];
        end
    end
```

```matlab
% Button pushed function: G3Button
function G3ButtonPushed(app, event)
    notenum=35;
    wave=app.wavefunc(notenum,app.time);
    sound(wave,app.samplefreq,24);
    pause(app.currentPause);
    if (app.rec==1)
        app.song=[app.song 'G3'];
    end
end

% Button pushed function: A3Button
function A3ButtonPushed(app, event)
    notenum=37;
    wave=app.wavefunc(notenum,app.time);
    sound(wave,app.samplefreq,24);
    pause(app.currentPause);
    if (app.rec==1)
        app.song=[app.song 'A3'];
    end
end

% Button pushed function: B3Button
function B3ButtonPushed(app, event)
    notenum=39;
    wave=app.wavefunc(notenum,app.time);
    sound(wave,app.samplefreq,24);
    pause(app.currentPause);
    if (app.rec==1)
        app.song=[app.song 'B3'];
    end
end

% Button pushed function: C4Button
function C4ButtonPushed(app, event)
    notenum=40;
    wave=app.wavefunc(notenum,app.time);
    sound(wave,app.samplefreq,24);
    pause(app.currentPause);
    if (app.rec==1)
        app.song=[app.song 'C4'];
    end
end

% Button pushed function: D4Button
function D4ButtonPushed(app, event)
    notenum=42;
    wave=app.wavefunc(notenum,app.time);
    sound(wave,app.samplefreq,24);
    pause(app.currentPause);
    if (app.rec==1)
        app.song=[app.song 'D4'];
    end
end

% Button pushed function: E4Button
function E4ButtonPushed(app, event)
    notenum=44;
    wave=app.wavefunc(notenum,app.time);
    sound(wave,app.samplefreq,24);
    pause(app.currentPause);
    if (app.rec==1)
        app.song=[app.song 'E4'];
    end
end

% Button pushed function: F4Button
function F4ButtonPushed(app, event)
    notenum=45;
    wave=app.wavefunc(notenum,app.time);
    sound(wave,app.samplefreq,24);
    pause(app.currentPause);
    if (app.rec==1)
        app.song=[app.song 'F4'];
    end
end

% Button pushed function: G4Button
function G4ButtonPushed(app, event)
    notenum=47;
    wave=app.wavefunc(notenum,app.time);
    sound(wave,app.samplefreq,24);
    pause(app.currentPause);
    if (app.rec==1)
        app.song=[app.song 'G4'];
    end
```

```matlab
        end

        % Button pushed function: A4Button
        function A4ButtonPushed(app, event)
            notenum=49;
            wave=app.wavefunc(notenum,app.time);
            sound(wave,app.samplefreq,24);
            pause(app.currentPause);
            if (app.rec==1)
                app.song=[app.song 'A4'];
            end
        end

        % Button pushed function: B4Button
        function B4ButtonPushed(app, event)
            notenum=51;
            wave=app.wavefunc(notenum,app.time);
            sound(wave,app.samplefreq,24);
            pause(app.currentPause);
            if (app.rec==1)
                app.song=[app.song 'B4'];
            end
        end

        % Button pushed function: C5Button
        function C5ButtonPushed(app, event)
            notenum=52;
            wave=app.wavefunc(notenum,app.time);
            sound(wave,app.samplefreq,24);
            pause(app.currentPause);
            if (app.rec==1)
                app.song=[app.song 'C5'];
            end
        end

        % Button pushed function: D5Button
        function D5ButtonPushed(app, event)
            notenum=54;
            wave=app.wavefunc(notenum,app.time);
            sound(wave,app.samplefreq,24);
            pause(app.currentPause);
            if (app.rec==1)
                app.song=[app.song 'D5'];
            end
        end

        % Button pushed function: E5Button
        function E5ButtonPushed(app, event)
            notenum=56;
            wave=app.wavefunc(notenum,app.time);
            sound(wave,app.samplefreq,24);
            pause(app.currentPause);
            if (app.rec==1)
                app.song=[app.song 'E5'];
            end
        end

        % Button pushed function: F5Button
        function F5ButtonPushed(app, event)
            notenum=57;
            wave=app.wavefunc(notenum,app.time);
            sound(wave,app.samplefreq,24);
            pause(app.currentPause);
            if (app.rec==1)
                app.song=[app.song 'F5'];
            end
        end

        % Button pushed function: G5Button
        function G5ButtonPushed(app, event)
            notenum=59;
            wave=app.wavefunc(notenum,app.time);
            sound(wave,app.samplefreq,24);
            pause(app.currentPause);
            if (app.rec==1)
                app.song=[app.song 'G5'];
            end
        end

        % Button pushed function: CS3Button
        function CS3ButtonPushed(app, event)
            notenum=29;
            wave=app.wavefunc(notenum,app.time);
            sound(wave,app.samplefreq,24);
            pause(app.currentPause);
            if (app.rec==1)
                app.song=[app.song 'CS3'];
```

```matlab
        end
    end

    % Button pushed function: DS3Button
    function DS3ButtonPushed(app, event)
        notenum=31;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'DS3'];
        end
    end

    % Button pushed function: FS3Button
    function FS3ButtonPushed(app, event)
        notenum=34;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'FS3'];
        end
    end

    % Button pushed function: GS3Button
    function GS3ButtonPushed(app, event)
        notenum=36;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'GS3'];
        end
    end

    % Button pushed function: AS3Button
    function AS3ButtonPushed(app, event)
        notenum=38;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'AS3'];
        end
    end

    % Button pushed function: CS4Button
    function CS4ButtonPushed(app, event)
        notenum=41;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'CS4'];
        end
    end

    % Button pushed function: DS4Button
    function DS4ButtonPushed(app, event)
        notenum=43;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'DS4'];
        end
    end

    % Button pushed function: FS4Button
    function FS4ButtonPushed(app, event)
        notenum=46;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'FS4'];
        end
    end

    % Button pushed function: GS4Button
    function GS4ButtonPushed(app, event)
        notenum=48;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
```

```matlab
            app.song=[app.song 'GS4'];
        end
    end

    % Button pushed function: AS4Button
    function AS4ButtonPushed(app, event)
        notenum=50;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'AS4'];
        end
    end

    % Button pushed function: CS5Button
    function CS5ButtonPushed(app, event)
        notenum=53;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'CS5'];
        end
    end

    % Button pushed function: DS5Button
    function DS5ButtonPushed(app, event)
        notenum=55;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'DS5'];
        end
    end

    % Button pushed function: FS5Button
    function FS5ButtonPushed(app, event)
        notenum=58;
        wave=app.wavefunc(notenum,app.time);
        sound(wave,app.samplefreq,24);
        pause(app.currentPause);
        if (app.rec==1)
            app.song=[app.song 'FS5'];
        end
    end

    % Value changed function: PremadesongsListBox
    function PremadesongsListBoxValueChanged(app, event)
        %set auto play song from list
        if(app.PremadesongsListBox.Value == "London bridge")
            app.autoSong = 'LondonBridge.xlsx';
        end

        if(app.PremadesongsListBox.Value == "Happy birthday")
            app.autoSong = 'HappyBirthDay.xlsx';
        end

        if(app.PremadesongsListBox.Value == "Wish a merry christmas")
            app.autoSong = 'Christmas.xlsx';
        end
    end

    % Button pushed function: PLAYButton
    function PLAYButtonPushed(app, event)
        readFromExcel(app,app.autoSong);
    end

    % Value changed function: RECORDMODECheckBox
    function RECORDMODECheckBoxValueChanged(app, event)
        %if record check box is checked then other functions will
        %record. if it is turned off then song cell array will be
        %restarted so another song could be played.
        app.rec = app.RECORDMODECheckBox.Value;
        if(app.rec == 0)
            app.song = [];
        end
    end

    % Button pushed function: SAVEButton
    function SAVEButtonPushed(app, event)
        %after save button is pressed then get a file name from the
        %user and save the song to an excel file.
        fileName = input("please enter the file name (no need to enter .xlsx): ",'s');
        fileName = fileName + ".xlsx";
        app.song = transpose(app.song);
```

```matlab
                writecell(app.song,fileName);
        end

        % Button pushed function: PLAYCUSTOMSONGButton
        function PLAYCUSTOMSONGButtonPushed(app, event)
            readFromExcel(app,app.EnteracustomsongfilenameEditField.Value);
        end
    end

    % Component initialization
    methods (Access = private)

        % Create UIFigure and components
        function createComponents(app)

            % Create UIFigure and hide until all components are created
            app.UIFigure = uifigure('Visible', 'off');
            app.UIFigure.Position = [100 100 819 480];
            app.UIFigure.Name = 'MATLAB App';

            % Create Image
            app.Image = uiimage(app.UIFigure);
            app.Image.Position = [1 -33 819 562];
            app.Image.ImageSource = 'images (1).png';

            % Create C3Button
            app.C3Button = uibutton(app.UIFigure, 'push');
            app.C3Button.ButtonPushedFcn = createCallbackFcn(app, @C3ButtonPushed, true);
            app.C3Button.VerticalAlignment = 'bottom';
            app.C3Button.Position = [60 180 37 276];
            app.C3Button.Text = 'C';

            % Create D3Button
            app.D3Button = uibutton(app.UIFigure, 'push');
            app.D3Button.ButtonPushedFcn = createCallbackFcn(app, @D3ButtonPushed, true);
            app.D3Button.VerticalAlignment = 'bottom';
            app.D3Button.Position = [97 180 37 276];
            app.D3Button.Text = 'D';

            % Create E3Button
            app.E3Button = uibutton(app.UIFigure, 'push');
            app.E3Button.ButtonPushedFcn = createCallbackFcn(app, @E3ButtonPushed, true);
            app.E3Button.VerticalAlignment = 'bottom';
            app.E3Button.Position = [134 180 37 276];
            app.E3Button.Text = 'E';

            % Create F3Button
            app.F3Button = uibutton(app.UIFigure, 'push');
            app.F3Button.ButtonPushedFcn = createCallbackFcn(app, @F3ButtonPushed, true);
            app.F3Button.VerticalAlignment = 'bottom';
            app.F3Button.Position = [171 180 37 276];
            app.F3Button.Text = 'F';

            % Create G3Button
            app.G3Button = uibutton(app.UIFigure, 'push');
            app.G3Button.ButtonPushedFcn = createCallbackFcn(app, @G3ButtonPushed, true);
            app.G3Button.VerticalAlignment = 'bottom';
            app.G3Button.Position = [208 180 37 276];
            app.G3Button.Text = 'G';

            % Create A3Button
            app.A3Button = uibutton(app.UIFigure, 'push');
            app.A3Button.ButtonPushedFcn = createCallbackFcn(app, @A3ButtonPushed, true);
            app.A3Button.VerticalAlignment = 'bottom';
            app.A3Button.Position = [244 180 37 276];
            app.A3Button.Text = 'A';

            % Create B3Button
            app.B3Button = uibutton(app.UIFigure, 'push');
            app.B3Button.ButtonPushedFcn = createCallbackFcn(app, @B3ButtonPushed, true);
            app.B3Button.VerticalAlignment = 'bottom';
            app.B3Button.Position = [280 180 37 276];
            app.B3Button.Text = 'B';

            % Create C4Button
            app.C4Button = uibutton(app.UIFigure, 'push');
            app.C4Button.ButtonPushedFcn = createCallbackFcn(app, @C4ButtonPushed, true);
            app.C4Button.VerticalAlignment = 'bottom';
            app.C4Button.Position = [317 180 37 276];
            app.C4Button.Text = 'C';

            % Create D4Button
            app.D4Button = uibutton(app.UIFigure, 'push');
            app.D4Button.ButtonPushedFcn = createCallbackFcn(app, @D4ButtonPushed, true);
            app.D4Button.VerticalAlignment = 'bottom';
            app.D4Button.Position = [354 180 37 276];
            app.D4Button.Text = 'D';
```

```matlab
% Create E4Button
app.E4Button = uibutton(app.UIFigure, 'push');
app.E4Button.ButtonPushedFcn = createCallbackFcn(app, @E4ButtonPushed, true);
app.E4Button.VerticalAlignment = 'bottom';
app.E4Button.Position = [391 180 37 276];
app.E4Button.Text = 'E';

% Create F4Button
app.F4Button = uibutton(app.UIFigure, 'push');
app.F4Button.ButtonPushedFcn = createCallbackFcn(app, @F4ButtonPushed, true);
app.F4Button.VerticalAlignment = 'bottom';
app.F4Button.Position = [428 180 37 276];
app.F4Button.Text = 'F';

% Create G4Button
app.G4Button = uibutton(app.UIFigure, 'push');
app.G4Button.ButtonPushedFcn = createCallbackFcn(app, @G4ButtonPushed, true);
app.G4Button.VerticalAlignment = 'bottom';
app.G4Button.Position = [465 180 37 276];
app.G4Button.Text = 'G';

% Create A4Button
app.A4Button = uibutton(app.UIFigure, 'push');
app.A4Button.ButtonPushedFcn = createCallbackFcn(app, @A4ButtonPushed, true);
app.A4Button.VerticalAlignment = 'bottom';
app.A4Button.Position = [501 180 37 276];
app.A4Button.Text = 'A';

% Create B4Button
app.B4Button = uibutton(app.UIFigure, 'push');
app.B4Button.ButtonPushedFcn = createCallbackFcn(app, @B4ButtonPushed, true);
app.B4Button.VerticalAlignment = 'bottom';
app.B4Button.Position = [538 180 37 276];
app.B4Button.Text = 'B';

% Create CS3Button
app.CS3Button = uibutton(app.UIFigure, 'push');
app.CS3Button.ButtonPushedFcn = createCallbackFcn(app, @CS3ButtonPushed, true);
app.CS3Button.BackgroundColor = [0 0 0];
app.CS3Button.FontSize = 1;
app.CS3Button.Position = [86 332 25 123];
app.CS3Button.Text = 'C4#';

% Create DS3Button
app.DS3Button = uibutton(app.UIFigure, 'push');
app.DS3Button.ButtonPushedFcn = createCallbackFcn(app, @DS3ButtonPushed, true);
app.DS3Button.BackgroundColor = [0 0 0];
app.DS3Button.FontSize = 1;
app.DS3Button.Position = [121 332 26 123];
app.DS3Button.Text = 'D4#';

% Create FS3Button
app.FS3Button = uibutton(app.UIFigure, 'push');
app.FS3Button.ButtonPushedFcn = createCallbackFcn(app, @FS3ButtonPushed, true);
app.FS3Button.BackgroundColor = [0 0 0];
app.FS3Button.FontSize = 1;
app.FS3Button.Position = [197 332 25 123];
app.FS3Button.Text = 'F4#';

% Create GS3Button
app.GS3Button = uibutton(app.UIFigure, 'push');
app.GS3Button.ButtonPushedFcn = createCallbackFcn(app, @GS3ButtonPushed, true);
app.GS3Button.BackgroundColor = [0 0 0];
app.GS3Button.FontSize = 1;
app.GS3Button.Position = [233 332 25 123];
app.GS3Button.Text = 'G4#';

% Create AS3Button
app.AS3Button = uibutton(app.UIFigure, 'push');
app.AS3Button.ButtonPushedFcn = createCallbackFcn(app, @AS3ButtonPushed, true);
app.AS3Button.BackgroundColor = [0 0 0];
app.AS3Button.FontSize = 1;
app.AS3Button.Position = [268 332 25 123];
app.AS3Button.Text = 'A4#';

% Create CS4Button
app.CS4Button = uibutton(app.UIFigure, 'push');
app.CS4Button.ButtonPushedFcn = createCallbackFcn(app, @CS4ButtonPushed, true);
app.CS4Button.BackgroundColor = [0 0 0];
app.CS4Button.FontSize = 1;
app.CS4Button.Position = [342 332 25 123];
app.CS4Button.Text = 'C5#';

% Create DS4Button
app.DS4Button = uibutton(app.UIFigure, 'push');
app.DS4Button.ButtonPushedFcn = createCallbackFcn(app, @DS4ButtonPushed, true);
```

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app.DS4Button.BackgroundColor = [0 0 0];
app.DS4Button.FontSize = 1;
app.DS4Button.Position = [381 332 25 123];
app.DS4Button.Text = 'D5#';

% Create FS4Button
app.FS4Button = uibutton(app.UIFigure, 'push');
app.FS4Button.ButtonPushedFcn = createCallbackFcn(app, @FS4ButtonPushed, true);
app.FS4Button.BackgroundColor = [0 0 0];
app.FS4Button.FontSize = 1;
app.FS4Button.Position = [453 332 25 123];
app.FS4Button.Text = 'F5#';

% Create GS4Button
app.GS4Button = uibutton(app.UIFigure, 'push');
app.GS4Button.ButtonPushedFcn = createCallbackFcn(app, @GS4ButtonPushed, true);
app.GS4Button.BackgroundColor = [0 0 0];
app.GS4Button.FontSize = 1;
app.GS4Button.Position = [491 332 25 123];
app.GS4Button.Text = 'G5#';

% Create AS4Button
app.AS4Button = uibutton(app.UIFigure, 'push');
app.AS4Button.ButtonPushedFcn = createCallbackFcn(app, @AS4ButtonPushed, true);
app.AS4Button.BackgroundColor = [0 0 0];
app.AS4Button.FontSize = 1;
app.AS4Button.Position = [528 333 25 123];
app.AS4Button.Text = 'A5#';

% Create PremadesongsListBox
app.PremadesongsListBox = uilistbox(app.UIFigure);
app.PremadesongsListBox.Items = {'Happy birthday', 'London bridge', 'Wish a merry christmas'};
app.PremadesongsListBox.ValueChangedFcn = createCallbackFcn(app, @PremadesongsListBoxValueChanged, true);
app.PremadesongsListBox.Position = [66 59 121 51];
app.PremadesongsListBox.Value = {};

% Create C5Button
app.C5Button = uibutton(app.UIFigure, 'push');
app.C5Button.ButtonPushedFcn = createCallbackFcn(app, @C5ButtonPushed, true);
app.C5Button.VerticalAlignment = 'bottom';
app.C5Button.Position = [573 180 37 276];
app.C5Button.Text = 'C';

% Create D5Button
app.D5Button = uibutton(app.UIFigure, 'push');
app.D5Button.ButtonPushedFcn = createCallbackFcn(app, @D5ButtonPushed, true);
app.D5Button.VerticalAlignment = 'bottom';
app.D5Button.Position = [609 180 37 276];
app.D5Button.Text = 'D';

% Create E5Button
app.E5Button = uibutton(app.UIFigure, 'push');
app.E5Button.ButtonPushedFcn = createCallbackFcn(app, @E5ButtonPushed, true);
app.E5Button.VerticalAlignment = 'bottom';
app.E5Button.Position = [644 180 37 276];
app.E5Button.Text = 'E';

% Create F5Button
app.F5Button = uibutton(app.UIFigure, 'push');
app.F5Button.ButtonPushedFcn = createCallbackFcn(app, @F5ButtonPushed, true);
app.F5Button.VerticalAlignment = 'bottom';
app.F5Button.Position = [680 180 37 276];
app.F5Button.Text = 'F';

% Create G5Button
app.G5Button = uibutton(app.UIFigure, 'push');
app.G5Button.ButtonPushedFcn = createCallbackFcn(app, @G5ButtonPushed, true);
app.G5Button.VerticalAlignment = 'bottom';
app.G5Button.Position = [715 179 37 276];
app.G5Button.Text = 'G';

% Create CS5Button
app.CS5Button = uibutton(app.UIFigure, 'push');
app.CS5Button.ButtonPushedFcn = createCallbackFcn(app, @CS5ButtonPushed, true);
app.CS5Button.BackgroundColor = [0 0 0];
app.CS5Button.FontSize = 1;
app.CS5Button.Position = [600 332 25 123];
app.CS5Button.Text = 'A5#';

% Create DS5Button
app.DS5Button = uibutton(app.UIFigure, 'push');
app.DS5Button.ButtonPushedFcn = createCallbackFcn(app, @DS5ButtonPushed, true);
app.DS5Button.BackgroundColor = [0 0 0];
app.DS5Button.FontSize = 1;
app.DS5Button.Position = [640 333 25 123];
app.DS5Button.Text = 'A5#';
```

```matlab
            % Create FS5Button
            app.FS5Button = uibutton(app.UIFigure, 'push');
            app.FS5Button.ButtonPushedFcn = createCallbackFcn(app, @FS5ButtonPushed, true);
            app.FS5Button.BackgroundColor = [0 0 0];
            app.FS5Button.FontSize = 1;
            app.FS5Button.Position = [705 332 25 123];
            app.FS5Button.Text = 'A5#';

            % Create PLAYButton
            app.PLAYButton = uibutton(app.UIFigure, 'push');
            app.PLAYButton.ButtonPushedFcn = createCallbackFcn(app, @PLAYButtonPushed, true);
            app.PLAYButton.Position = [65 15 123 45];
            app.PLAYButton.Text = 'PLAY';

            % Create RECORDMODECheckBox
            app.RECORDMODECheckBox = uicheckbox(app.UIFigure);
            app.RECORDMODECheckBox.ValueChangedFcn = createCallbackFcn(app, @RECORDMODECheckBoxValueChanged, true);
            app.RECORDMODECheckBox.Text = 'RECORD MODE';
            app.RECORDMODECheckBox.FontWeight = 'bold';
            app.RECORDMODECheckBox.Position = [672 77 121 42];

            % Create SAVEButton
            app.SAVEButton = uibutton(app.UIFigure, 'push');
            app.SAVEButton.ButtonPushedFcn = createCallbackFcn(app, @SAVEButtonPushed, true);
            app.SAVEButton.Position = [671 18 122 42];
            app.SAVEButton.Text = 'SAVE';

            % Create PLAYCUSTOMSONGButton
            app.PLAYCUSTOMSONGButton = uibutton(app.UIFigure, 'push');
            app.PLAYCUSTOMSONGButton.ButtonPushedFcn = createCallbackFcn(app, @PLAYCUSTOMSONGButtonPushed, true);
            app.PLAYCUSTOMSONGButton.Position = [356 15 139 45];
            app.PLAYCUSTOMSONGButton.Text = 'PLAY CUSTOM SONG';

            % Create EnteracustomsongfilenameEditFieldLabel
            app.EnteracustomsongfilenameEditFieldLabel = uilabel(app.UIFigure);
            app.EnteracustomsongfilenameEditFieldLabel.BackgroundColor = [0.9412 0.9412 0.9412];
            app.EnteracustomsongfilenameEditFieldLabel.HorizontalAlignment = 'right';
            app.EnteracustomsongfilenameEditFieldLabel.Position = [258 88 167 22];
            app.EnteracustomsongfilenameEditFieldLabel.Text = 'Enter a custom song file name';

            % Create EnteracustomsongfilenameEditField
            app.EnteracustomsongfilenameEditField = uieditfield(app.UIFigure, 'text');
            app.EnteracustomsongfilenameEditField.BackgroundColor = [0.9412 0.9412 0.9412];
            app.EnteracustomsongfilenameEditField.Position = [440 87 165 23];

            % Show the figure after all components are created
            app.UIFigure.Visible = 'on';
        end
    end

    % App creation and deletion
    methods (Access = public)

        % Construct app
        function app = piano_fina_proj

            % Create UIFigure and components
            createComponents(app)

            % Register the app with App Designer
            registerApp(app, app.UIFigure)

            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
```