LAB EXERCISE - 16 - GRAPHICAL USER INTERFACE IN MATLAB

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Q1. Design the app layout by creating the main figure window, laying out the UI components in it, and configuring the appearance of the components by setting properties.

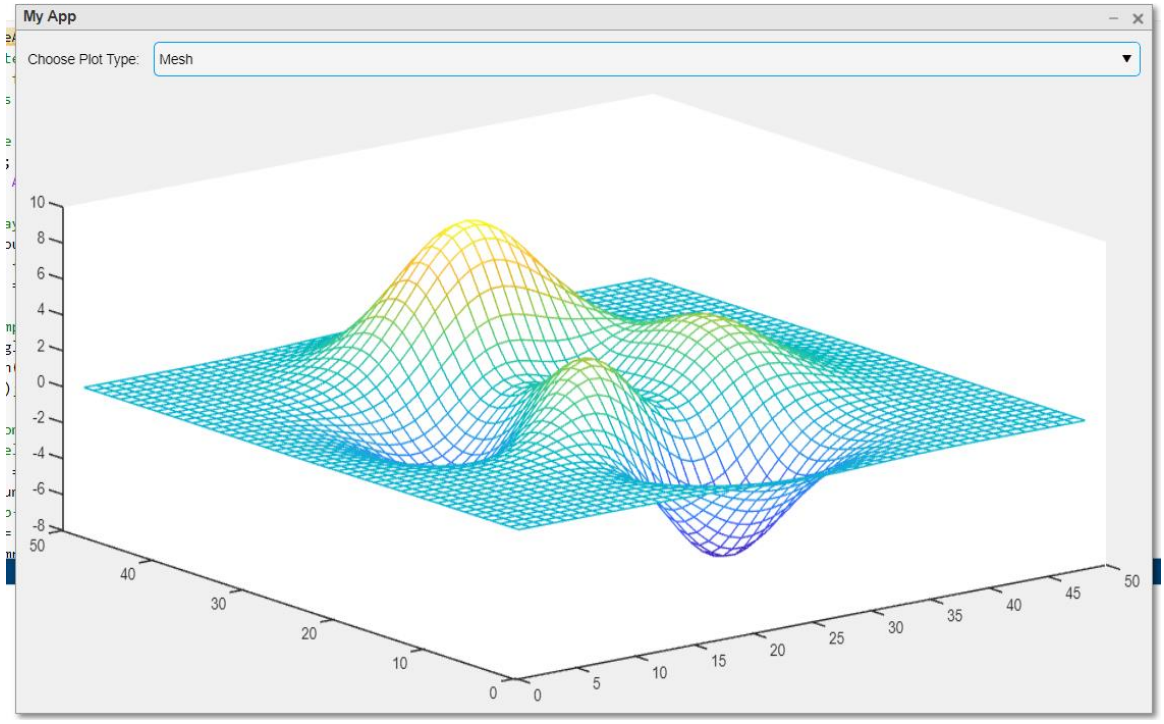
Q2. Program the app to respond when a user interacts with it.

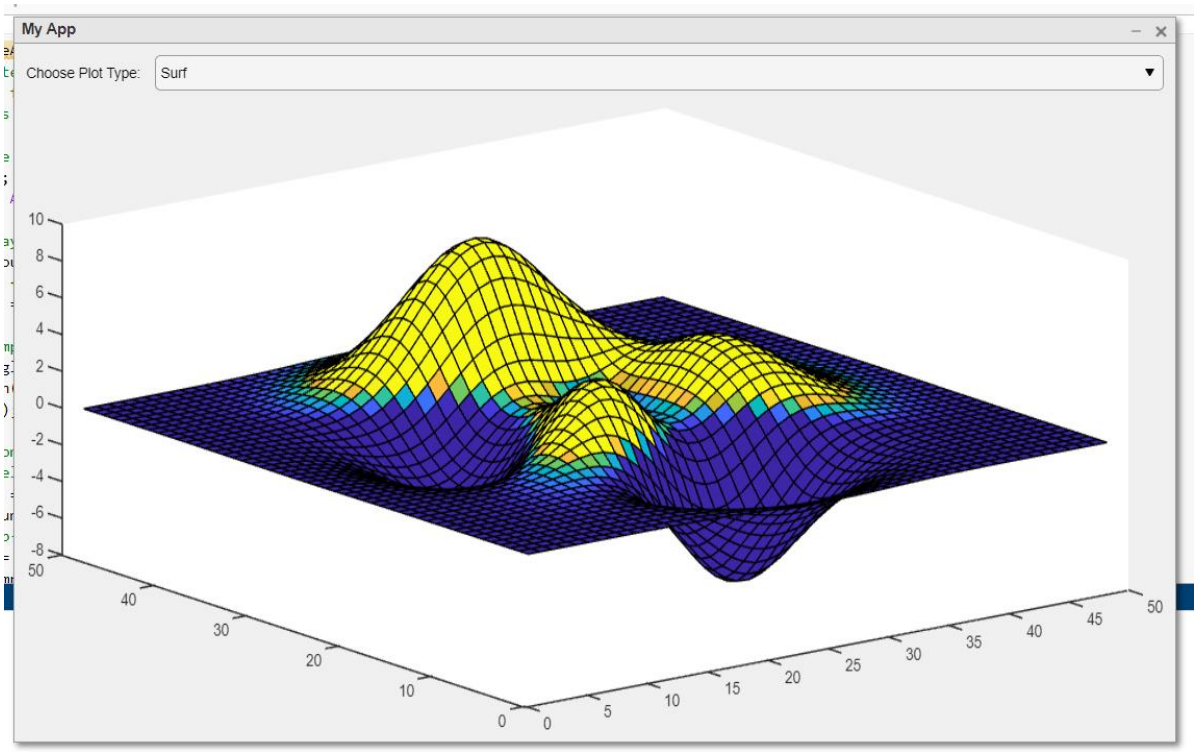
Q3. Run the app to verify that your app looks and behaves as expected.

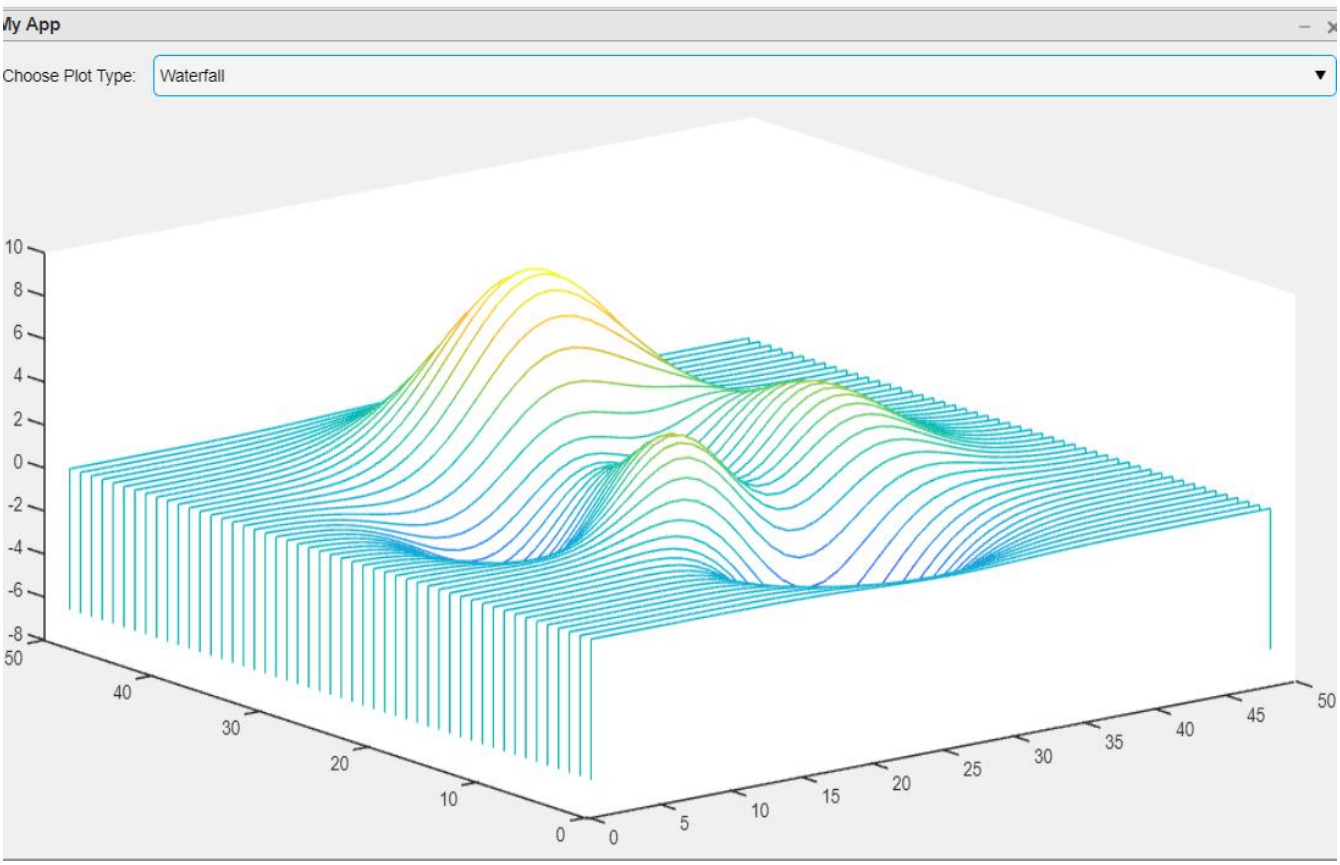
INPUT CODE:

```
function simpleApp
% SIMPLEAPP Interactively explore plotting functions
%   Choose the function used to plot the sample data to see the
%   differences between surface plots, mesh plots, and waterfall plots
% Create figure window
fig = uifigure;
fig.Name = "My App";


% Manage app layout
gl = uigridlayout(fig,[2 2]);
gl.RowHeight = {30,'1x'};
gl.ColumnWidth = {'fit','1x'};


% Create UI components
lbl = uilabel(gl);
dd = uidropdown(gl);
ax = uiaxes(gl);


% Lay out UI components
% Position label
lbl.Layout.Row = 1;
lbl.Layout.Column = 1;
% Position drop-down
dd.Layout.Row = 1;
dd.Layout.Column = 2;
% Position axes
ax.Layout.Row = 2;
ax.Layout.Column = [1 2];


% Configure UI component appearance
lbl.Text = "Choose Plot Type:";
dd.Items = ["Surf" "Mesh" "Waterfall"];
dd.Value = "Surf";
surf(ax,peaks)
% Assign callback function to drop-down
dd.ValueChangedFcn = {@changePlotType,ax};
end
```

```
% Program app behavior

function changePlotType(src,event,ax)
type = event.Value;
switch type
    case "Surf"
        surf(ax,peaks);
    case "Mesh"
        mesh(ax,peaks);
    case "Waterfall"
        waterfall(ax,peaks);
end
end
```






My App
Choose Plot Type:
Waterfall
10
8
6
4
2
0
-2
-4
-6
-8
50
40
30
20
10
0
0
5
10
15
20
25
30
35
40
45
50