

## Introduction to Matlab (WiSe18/19)

### Plot Any Data/File

Group 3

Amrit Lamichhane

Anu Paudel

Hari Bhattarai

Professor

Markus Schellenberg

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## PLOT ANY DATA

```
function varargout = project_work(varargin)

gui_Singleton = 1;
gui_State = struct('gui_Name',       mfilename, ...
                  'gui_Singleton',   gui_Singleton, ...
                  'gui_OpeningFcn', @project_work_OpeningFcn, ...
                  'gui_OutputFcn',  @project_work_OutputFcn, ...
                  'gui_LayoutFcn',  [], ...
                  'gui_Callback',    []);
if nargin && ischar(varargin{1})
    gui_State.gui_Callback = str2func(varargin{1});
end

if nargout
    [varargout{1:nargout}] = gui_mainfcn(gui_State, varargin{:});
else
    gui_mainfcn(gui_State, varargin{:});
end


function project_work_OpeningFcn(hObject, eventdata, handles, varargin)
handles.output = hObject;

% Update handles structure
guidata(hObject, handles);

function varargout = project_work_OutputFcn(hObject, eventdata, handles)

varargout{1} = handles.output;

function listbox1_Callback(hObject, eventdata, handles)

%%Import Excel Files
[fName,pName] = uigetfile('*.xlsx','Choose files to load:','Multiselect','on');
    if pName == 0, return; end
% files_in_this_folder=dir;
nFiles=length(fName)
idx=1;
for idx =1:nFiles
    filename=[fName,pName];
    if strcmpi(filename(end-4:end),'.xlsx')

        end
    end

[num,txt,row] = xlsread(fName);
    B=xlsread(fName);
    guidata(hObject, handles);
    X=B(:,1);%first column of the excel file
    Y=B(:,2);%second column of the excel file
    Z=B(:,3);%third column of the excel file
    %for plotting each columns
```

## PLOTTING EXCEL FILES

plot(X); plot(Y); plot(Z); hold on

```
plot(Y,Z);% 2-D plot
% plot3(X,Y,Z);%3-d plot
%it depends upon the file we are plotting
axes(handles.axes1)
    pl = plot(Y,Z);
% pl=plot(X);
% pl=plot(y);
% pl=plot(z);
handles.pl= pl;
guidata(hObject, handles);

% so that pl is stored as plot of our file
```

## LABELLING THE FIGURE

```
xlabel('\textit{x}/a.u.','Interpreter','latex');
ylabel('\textit{y}/a.u.','Interpreter','latex');
```

## TITLE TO THE EXCEL FIGURE

```
title('Plotting Excel Data ');
    %saveas(gcf,[fName(1:end-4),'plot.png'])% we can directly save our file as png ,but we
also did it in other button;
set(handles.listbox1, 'String', filename);
```

---

```
function listbox1_CreateFcn(hObject, eventdata, handles)
```

---

```
handles.listbox1 = hObject;
```

```
if ispc && isequal(get(hObject,'BackgroundColor'), get(0,'defaultUiControlBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end
```

## IMPORT TEXT FILES

```
function listbox2_Callback(hObject, eventdata, handles)
```

---

```
[fName,pName] = uigetfile('*.txt','Choose files to load:','Multiselect','on');
    if pName == 0, return; end
%files_in_this_folder=dir;
nFiles=length(fName)
idx=1;
for idx =1:nFiles
    filename=[fName,pName];
    if strcmpi(filename(end-4:end),'.txt')

        end
end
```

```
A=load(fName);
guidata(hObject, handles);
x=A(:,1);
y=A(:,2);
```

## PLOTTING TEXT FILES

```
p1 = plot(x,y);
handles.p1= p1;
guidata(hObject, handles);
axes(handles.axes1) ;
```

## LABELLING THE FIGURE

```
xlabel('\textit{x}/a.u.', 'Interpreter', 'latex');
ylabel('\textit{y}/a.u.', 'Interpreter', 'latex');
```

## TITLE TO THE TEXT FIGURE

```
title('Plotting Sample Data ');
%saveas(gcf,[fName(1:end-4),'plot.png'])
set(handles.listbox2, 'String', filename)
```

---

```
function listbox2_CreateFcn(hObject, eventdata, handles)
```

```
handles.listbox2 = hObject;
```

```
if ispc && isequal(get(hObject,'BackgroundColor'), get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end
```

## TO CHOOSE THE PLOT COLORS

```
function pushbutton10_Callback(hObject, eventdata, handles)
guidata(hObject, handles)
p1 = handles.p1;
p1.Color = 'red';
```

```
function pushbutton11_Callback(hObject, eventdata, handles)
guidata(hObject, handles)
p1 = handles.p1;
p1.Color = 'yellow';
```

```
function pushbutton12_Callback(hObject, eventdata, handles)
```

---

```
guidata(hObject, handles)
p1 = handles.p1;
p1.Color = 'green';
```

## TO CHOOSE THE LINEWIDTH OF THE PLOT

```
function pushbutton14_Callback(hObject, eventdata, handles)
guidata(hObject, handles)
p1 = handles.p1;
p1.Linewidth = 1;

function pushbutton15_Callback(hObject, eventdata, handles)
guidata(hObject, handles)
p1 = handles.p1;
p1.Linewidth = 2;

function pushbutton16_Callback(hObject, eventdata, handles)
guidata(hObject, handles)
p1 = handles.p1;
p1.Linewidth = 3;

function pushbutton17_Callback(hObject, eventdata, handles)
guidata(hObject, handles)
p1 = handles.p1;
p1.Linewidth = 4;
```

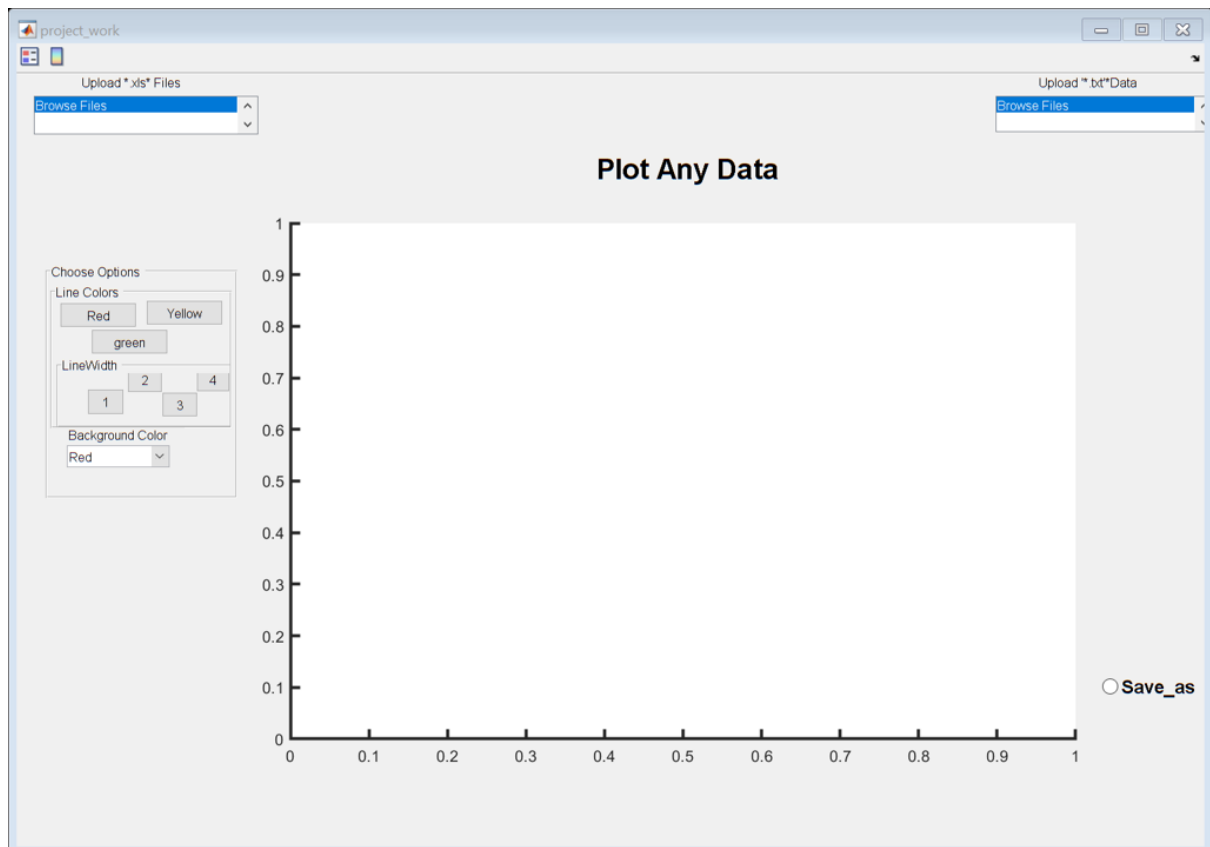
## TO CHANGE THE BACKGROUND COLOR

```
function popupmenu3_Callback(hObject, eventdata, handles)
guidata(hObject, handles)
x=get(hObject,'value');
axes(handles.axes1);
switch x
    case 1
        set(gca,'color','r') % r is for red color
    case 2
        set(gca,'color','g') % g is for green color
    case 3
        set(gca,'color','b') % b is for blue color
    case 4
        set(gca,'color','y') % y is for yellow
    case 5
        set(gca,'color','w') % w is for white
    case 6
        set(gca,'color',[ 1 0.6 0]) % orange color
    case 7
        set(gca,'color',[ 0 1 1]) % cyan color
end

function popupmenu3_CreateFcn(hObject, eventdata, handles)
if ispc && isequal(get(hObject,'BackgroundColor'), get(0,'defaultuicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end
```

## FOR SAVING THE FIGURE

```
function radiobutton2_callback(hObject, eventdata, handles)
guidata(hObject, handles)
axes(handles.axes1);
fh = figure;
copyobj(handles.axes1, fh);
```



*Published with MATLAB® R2017b*