



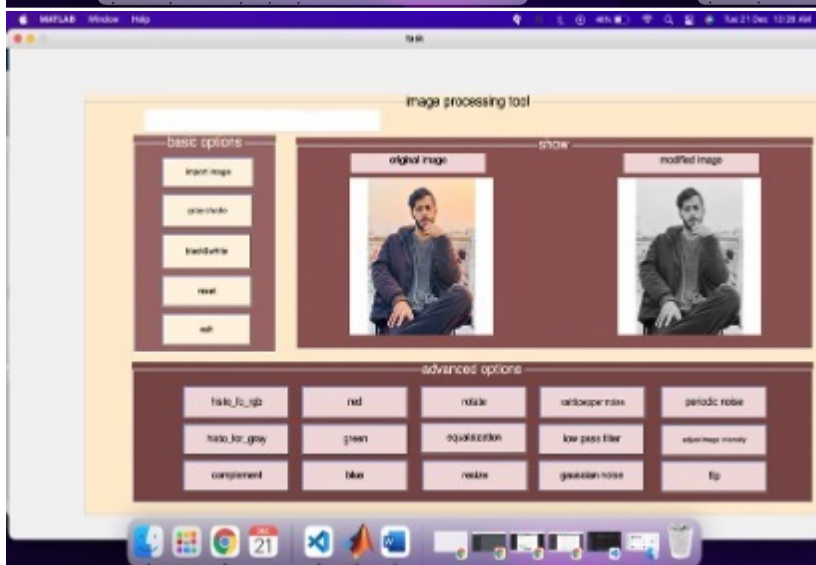
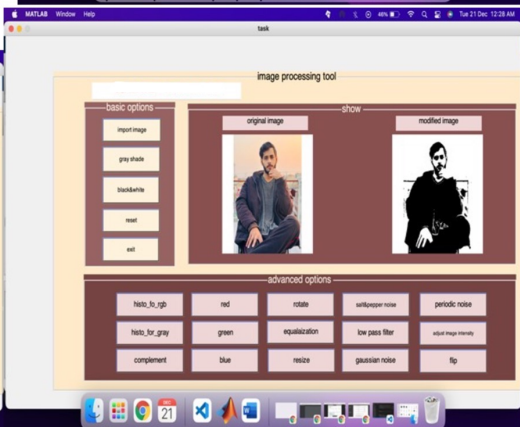
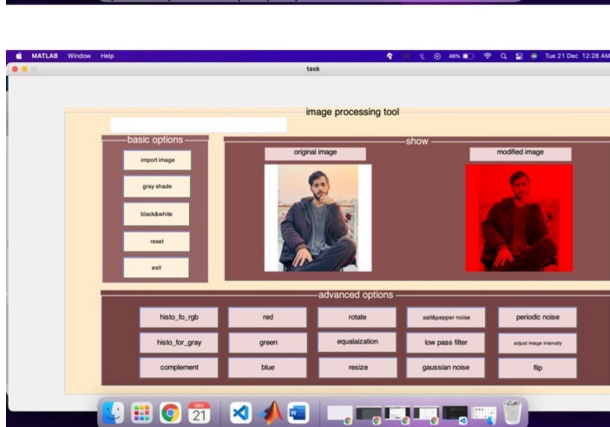
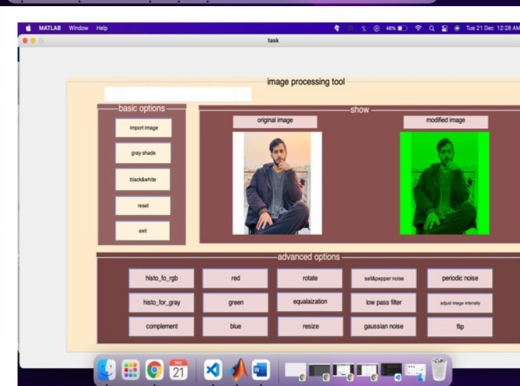
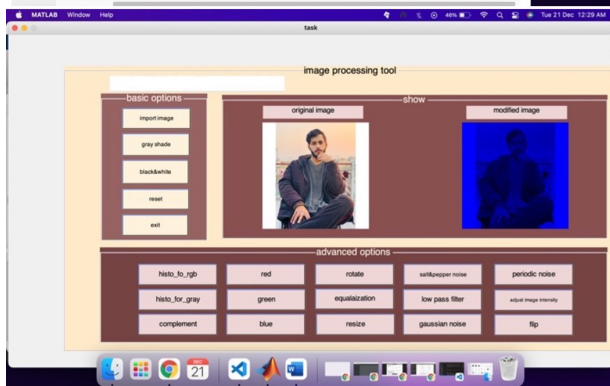
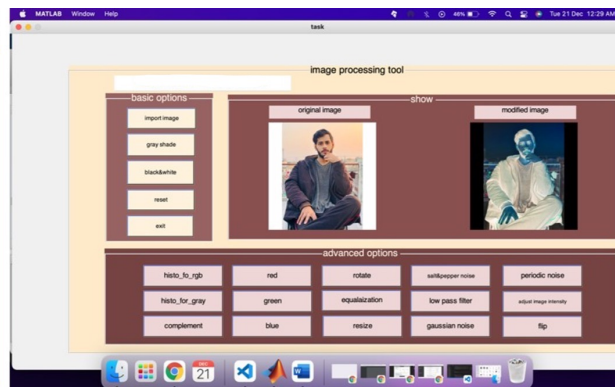
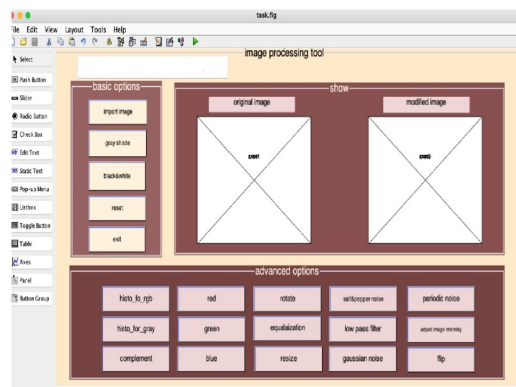
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FA16-BEE-054

DSP Lab

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Lab Assignment # 4



Code:

```
function varargout = task(varargin) gui_Singleton
= 1; gui_State = struct('gui_Name',
mfilename, ...
    'gui_Singleton', gui_Singleton, ...
    'gui_OpeningFcn', @task_OpeningFcn, ...
    'gui_OutputFcn', @task_OutputFcn, ...
    'gui_LayoutFcn', [] , ...
    'gui_Callback', []); if nargin && ischar(varargin{1})
    gui_State.gui_Callback = str2func(varargin{1});
end if nargin
    [varargout{1:nargout}] = gui_mainfcn(gui_State, varargin{:});
else
    gui_mainfcn(gui_State, varargin{:}); end
% End initialization code - DO NOT EDIT

% --- Executes just before task is made visible.
function task_OpeningFcn(hObject, eventdata, handles, varargin)
handles.output = hObject;

% Update handles structure guidata(hObject, handles);
function varargout = task_OutputFcn(hObject, eventdata,
handles)
varargout{1} = handles.output;

% --- Executes on button press in pushbutton1.
function pushbutton1_Callback(hObject, eventdata, handles)
a=uigetfile() filename=a;
setappdata(0,'filename',filename);
a=imread(a); axes(handles.axes1); imshow(a);
setappdata(0,'a',a)
setappdata(0,'filename',a);
plot(handles.axes1,'a')

% --- Executes on button press in pushbutton2.
function pushbutton2_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); a_bw=im2bw(a,.57);
axes(handles.axes3); imshow(a_bw)
setappdata(0,'filename',a_bw);
% --- Executes on button press in pushbutton3.
function pushbutton3_Callback(hObject, eventdata, handles)
a=getappdata(0,'a');
a_gray=rgb2gray(a);
setappdata(0,'filename
',a_gray);
axes(handles.axes3);
imshow(a_gray)
```

```

% --- Executes on button press in pushbutton4. function
pushbutton4_Callback(hObject, eventdata, handles) function
pushbutton5_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); imshow(a);

% --- Executes on button press in pushbutton6. function
pushbutton6_Callback(hObject, eventdata, handles)
% --- Executes on button press in pushbutton7.
function pushbutton7_Callback(hObject, eventdata, handles)

msgbox('thanks for using image processing tool') pause(1)
close(); close();

% --- Executes on button press in pushbutton32. function
pushbutton32_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); input=a; input=rgb2gray(input);
axes(handles.axes3) imhist(input)

% --- Executes on button press in pushbutton33. function
pushbutton33_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); eq=histeq(a); axes(handles.axes3);
imshow(eq)

% --- Executes on button press in pushbutton34. function
pushbutton34_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); noise=imnoise(a,'salt & pepper');
a3=fspecial('average',[7,7]); t_sp_a3=filter2(a3,noise);
axes(handles.axes3); imshow(t_sp_a3/255)

% --- Executes on button press in pushbutton35.
function pushbutton35_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); adjust=imadjust(a);
axes(handles.axes3); imshow(adjust)

% --- Executes on button press in pushbutton36. function
pushbutton36_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); s=size(a);
[x,y]=meshgrid(1:s(1),1:s(2)); p=sin(x/3+y/5)+1;
noise=(im2double(a)+p/2)/2; axes(handles.axes3);
imshow(noise)

```

```
% --- Executes on button press in pushbutton37.  
function pushbutton37_Callback(hObject, eventdata, handles)  
a=getappdata(0,'a'); noise=imnoise(a,'salt & pepper');  
axes(handles.axes3); imshow(noise)
```

```
% --- Executes on button press in pushbutton38.  
function pushbutton38_Callback(hObject, eventdata, handles)  
a=getappdata(0,'a'); rotate=imrotate(a,45);  
axes(handles.axes3); imshow(rotate);
```

```
% --- Executes on button press in pushbutton39.  
function pushbutton39_Callback(hObject, eventdata, handles)  
a=getappdata(0,'a'); IM2=imcomplement(a);  
axes(handles.axes3); imshow(IM2);
```

```
% --- Executes on button press in pushbutton40. function  
pushbutton40_Callback(hObject, eventdata, handles)  
a=getappdata(0,'a'); input=a; axes(handles.axes3)  
imhist(input)
```

```
% --- Executes on button press in pushbutton41. function  
pushbutton41_Callback(hObject, eventdata, handles)  
a=getappdata(0,'a'); red=a; red(:, :, 2:3)=0;  
setappdata(0,'filename',red);  
setappdata(0,'imrotation',red); axes(handles.axes3);  
imshow(red)
```

```
% --- Executes on button press in pushbutton42. function  
pushbutton42_Callback(hObject, eventdata, handles)  
a=getappdata(0,'a'); rz=imresize(a,0.5);  
axes(handles.axes3); imshow(rz)
```

```
% --- Executes on button press in pushbutton43. function  
pushbutton43_Callback(hObject, eventdata, handles)  
a=getappdata(0,'a'); noise=imnoise(a,'gaussian');  
axes(handles.axes3); imshow(noise)
```

```
% --- Executes on button press in pushbutton44.  
function pushbutton44_Callback(hObject, eventdata, handles)  
i=getappdata(0,'a'); i2=flipdim(i,2); axes(handles.axes3);  
imshow(i2)
```

```

function pushbutton45_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); blue=a; blue(:, :,1)=0; blue(:, :,2)=0;
setappdata(0,'filename',blue);
setappdata(0,'imrotation',blue); axes(handles.axes3);
imshow(blue)

% --- Executes on button press in pushbutton46. function
pushbutton46_Callback(hObject, eventdata, handles)
a=getappdata(0,'a'); green=a; green(:, :,1)=0; green(:, :,3)=0;
setappdata(0,'filename',green);
setappdata(0,'imrotation',green); axes(handles.axes3); imshow(green)
function edit1_Callback(hObject, eventdata, handles) function
edit1_CreateFcn(hObject, eventdata, handles)

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

```