```
function varargout = GUI(varargin)
% GUI MATLAB code for GUI.fig
%      GUI, by itself, creates a new GUI or raises the existing
%      singleton*.
%
%      H = GUI returns the handle to a new GUI or the handle to
%      the existing singleton*.
%
%      GUI('CALLBACK',hObject,eventData,handles,...) calls the local
%      function named CALLBACK in GUI.M with the given input arguments.
%
%      GUI('Property','Value',...) creates a new GUI or raises the
%      existing singleton*.  Starting from the left, property value pairs are
%      applied to the GUI before GUI_OpeningFcn gets called.  An
%      unrecognized property name or invalid value makes property application
%      stop.  All inputs are passed to GUI_OpeningFcn via varargin.
%
%      *See GUI Options on GUIDE's Tools menu.  Choose "GUI allows only one
%      instance to run (singleton)".
%
% See also: GUIDE, GUIDATA, GUIHANDLES

% Edit the above text to modify the response to help GUI

% Last Modified by GUIDE v2.5 26-Nov-2018 23:59:47

% Begin initialization code - DO NOT EDIT
gui_Singleton = 1;
gui_State = struct('gui_Name',       mfilename, ...
                   'gui_Singleton',  gui_Singleton, ...
                   'gui_OpeningFcn', @GUI_OpeningFcn, ...
                   'gui_OutputFcn',  @GUI_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
% End initialization code - DO NOT EDIT



% --- Executes just before GUI is made visible.
function GUI_OpeningFcn(hObject, eventdata, handles, varargin)
% This function has no output args, see OutputFcn.
% hObject    handle to figure
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
% varargin   command line arguments to GUI (see VARARGIN)
clear img1;
clear img2;
i1 = 0;
i2 = 0;
handles.Feat_Err = [ 0.006 0.8 0.04 6 [[0.0750 0.0750] [0.0750 0.0750]] 0.0065 ];
% Choose default command line output for GUI
handles.output = hObject;

% Update handles structure
guidata(hObject, handles);
```

```
% UIWAIT makes GUI wait for user response (see UIRESUME)
% uiwait(handles.figure1);


% --- Outputs from this function are returned to the command line.
function varargout = GUI_OutputFcn(hObject, eventdata, handles)
% varargout  cell array for returning output args (see VARARGOUT);
% hObject    handle to figure
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

% Get default command line output from handles structure
varargout{1} = handles.output;


% --- Executes on button press in pushbutton2.
function pushbutton2_Callback(hObject, eventdata, handles)
% hObject    handle to pushbutton2 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
[a b] = uigetfile('.','All Files');
img1=imread([b a]);
handles.img1 = img1;
guidata(hObject, handles);
imshow(img1,'Parent',handles.axes3);

% --- Executes on button press in pushbutton3.
function pushbutton3_Callback(hObject, eventdata, handles)
% hObject    handle to pushbutton3 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
[a b] = uigetfile('.','All Files');
```

```
img2=imread([b a]);
handles.img2 = img2;
guidata(hObject, handles);
imshow(img2,'Parent',handles.axes4);

% --- Executes during object creation, after setting all properties.
function uipanel1_CreateFcn(hObject, eventdata, handles)
% hObject    handle to uipanel1 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called


% --- Executes on button press in pushbutton4.
function pushbutton4_Callback(hObject, eventdata, handles)
% hObject    handle to pushbutton4 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
isfield(handles, 'img1')

if isfield(handles, 'img1') && isfield(handles, 'img2')
   [Feat1,imgp1] = featureExtraction(handles.img1);
   imshow(imgp1,'Parent',handles.axes5);
   [Feat2,imgp2] = featureExtraction(handles.img2);
   imshow(imgp2,'Parent',handles.axes6);
   Feat_Err = handles.Feat_Err
   Feat1
   Feat2
   flag = 1;
   for i=1:9
      if abs(Feat2(i)-Feat1(i)) > Feat_Err(i)
         flag = 0;
         break;
```

```
        end
    end

    if flag
        set(handles.text8,'string','Valid');
    else
        set(handles.text8,'string','Invalid');
    end

else
    errordlg('Please Select both the images');
    set(handles.text8,'string','Not Processed');
end
```