function varargout = osteoporosis(varargin)
% OSTEOPOROSIS M-file for osteoporosis.fig
% OSTEOPOROSIS, by itself, creates a new OSTEOPOROSIS or
% raises the existing
% singleton*.
% H = OSTEOPOROSIS returns the handle to a new OSTEOPOROSIS
% or the handle to
% the existing singleton*.
% OSTEOPOROSIS('CALLBACK',(hObject,eventData,handles,...)
calls the local
% function named CALLBACK in OSTEOPOROSIS.M with the given
input arguments.
% OSTEOPOROSIS('Property','Value',...) creates a new
OSTEOPOROSIS or raises the
% existing singleton*. Starting from the left, property
value pairs are
% applied to the GUI before osteoporosis_OpeningFcn gets
called. An
% unrecognized property name or invalid value makes property
application
% stop. All inputs are passed to osteoporosis_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 osteoporosis
% Last Modified by GUIDE v2.5 04-Apr-2017 13:01:31

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

% --- Executes just before osteoporosis is made visible.
function osteoporosis_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 osteoporosis (see VARARGIN)

% Choose default command line output for osteoporosis
handles.output = hObject;

% Update handles structure
gdata(hObject, handles);

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

% --- Outputs from this function are returned to the command line.
function varargout = osteoporosis_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 pushbutton1.
function pushbutton1_Callback(hObject, eventdata, handles)
% hObject    handle to pushbutton1 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
proyek=gdata(gcbo);
il=imread('c:\sample3\vv1.jpg');
gl=rgb2gray(il);
a1=imadjust(gl);
e1=edge(a1,'canny');
pix2=bwarea(e1)/10^4 %menghitung jumlah piksel area
erorrkolerasi=(pix2*0.05)/10^4
pix1=(pix2-errorkolerasi);
i = get(proyek.axes2,'UserData');
g = rgb2gray(i);
a = imadjust(g);
e = edge(a,'canny')
pix = bwarea(e) %/10^4
hasil = pix;

set(proyek.figure1,'CurrentAxes',proyek.axes6);
set(imshow(g));
set(proyek.figure1,'CurrentAxes',proyek.axes7);
set(imshow(e));

set(proyek.figure1,'CurrentAxes',proyek.axes3);
set(imshow(i1));
set(proyek.figure1,'CurrentAxes',proyek.axes4);
set(imshow(e1));
set(proyek.figure1,'CurrentAxes',proyek.axes5);
set(imshow(e1));

set(proyek.axes2,'UserData');
if pix<pix1,set(proyek.diagnosa,'String','negatif osteoporosis')
else set(proyek.diagnosa,'String','osteoporosis'),end;

function umur_Callback(hObject, eventdata, handles)
    % hObject    handle to umur (see GCBO)
    % eventdata  reserved - to be defined in a future version of
    %    MATLAB
    % handles    structure with handles and user data (see GUIDATA)
    
    % Hints: get(hObject,'String') returns contents of umur as text
    % str2double(get(hObject,'String')) returns contents of
    % umur as a double

    % --- Executes during object creation, after setting all
    % properties.
    function umur_CreateFcn(hObject, eventdata, handles)
    % hObject    handle to umur (see GCBO)
    % eventdata  reserved - to be defined in a future version of
    % MATLAB
    % handles    empty - handles not created until after all
    % CreateFcns called
    
    % Hint: edit controls usually have a white background on Windows.
    % See ISPC and COMPUTER.
    if ispc & isequal(get(hObject,'BackgroundColor'),
        get(0,'defaultUicontrolBackgroundColor'))
function jeniskelamin_Callback(hObject, eventdata, handles)
    % hObject    handle to jeniskelamin (see GCBO)
    % eventdata  reserved - to be defined in a future version of
    % MATLAB
    % handles    structure with handles and user data (see GUIDATA)
    % Hints: get(hObject,'String') returns contents of jeniskelamin
    %        as text
%        str2double(get(hObject,'String')) returns contents of
    %        jeniskelamin as a double

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

% Hint: edit controls usually have a white background on Windows.
%       See ISPC and COMPUTER.
    if ispc && isequal(get(hObject,'BackgroundColor'),
                      get(0,'defaultUicontrolBackgroundColor'))
        set(hObject,'BackgroundColor','white');
    end

function menopause_Callback(hObject, eventdata, handles)
    % hObject    handle to menopause (see GCBO)
    % eventdata  reserved - to be defined in a future version of
    % MATLAB
    % handles    structure with handles and user data (see GUIDATA)
    % Hints: get(hObject,'String') returns contents of menopause as
    %        text
%        str2double(get(hObject,'String')) returns contents of
    %        menopause as a double

% --- Executes during object creation, after setting all
%     properties.
function menopause_CreateFcn(hObject, eventdata, handles)
    % hObject    handle to menopause (see GCBO)
    % eventdata  reserved - to be defined in a future version of
    % MATLAB
function riwayat_Callback(hObject, eventdata, handles)
% hObject    handle to riwayat (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'String') returns contents of riwayat as text
%        str2double(get(hObject,'String')) returns contents of riwayat as a double

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

% Hint: edit controls usually have a white background on Windows.
%       See ISPC and COMPUTER.
if ispc && isequal(get(hObject,'BackgroundColor'),
    get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

function hasil_Callback(hObject, eventdata, handles)
% hObject    handle to hasil (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)

% Hints: get(hObject,'String') returns contents of hasil as text
%        str2double(get(hObject,'String')) returns contents of hasil as a double
% --- Executes during object creation, after setting all properties.
function hasl_CreateFcn(hObject, eventdata, handles)
% hObject    handle to hasil (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called

% Hint: edit controls usually have a white background on Windows.
%       See ISPC and COMPUTER.
if ispc && isequal(get(hObject,'BackgroundColor'),get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

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

load svm
uji=[handles.umur handles.jeniskelamin handles.menopause]

uji1=svmclassify(y1,uji(:,1:2))

if uji1==0
    uji2=svmclassify(y2,[uji(:,1) uji(:,3)])
    if uji2==0
        msgbox('osteoporosis pascamenopause')
    else
        msgbox('osteoporosis senilis')
    end
else
    uji3=svmclassify(y3,uji(:,2:3))
    if uji3==1
        msgbox('osteoporosis sekunder')
    else
        msgbox('osteoporosis sekunder')
    end
    uji4=svmclassify(y4,uji(:,3:4))
    if uji4==2
        msgbox('osteoporosis sekunder')
    else
        msgbox('osteoporosis juvenil')
    end

function diagnosa_Callback(hObject, eventdata, handles)
% hObject    handle to diagnosa (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
Hints: get(hObject,'String') returns contents of diagnosa as text
str2double(get(hObject,'String')) returns contents of diagnosa as a double

--- Executes during object creation, after setting all properties.

function diagnosa_CreateFcn(hObject, eventdata, handles)
    hObject    handle to diagnosa (see GCBO)
    eventdata  reserved - to be defined in a future version of MATLAB
    handles    empty - handles not created until after all CreateFcns called

% Hint: edit controls usually have a white background on Windows.
% See ISPC and COMPUTER.
if ispc && isequal(get(hObject,'BackgroundColor'),
                   get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end

% ---------------------------------------------
function file_Callback(hObject, eventdata, handles)
    hObject    handle to file (see GCBO)
    eventdata  reserved - to be defined in a future version of MATLAB
    handles    structure with handles and user data (see GUIDATA)

% ---------------------------------------------
function open_Callb(hObject, eventdata, handles)
    hObject    handle to open (see GCBO)
    eventdata  reserved - to be defined in a future version of MATLAB
    handles    structure with handles and user data (see GUIDATA)
proyek=guidata(gcbo);
[namafile,direktori]=uigetfile({'*.jpg','*.*'},'Buka Gambar');
i=imread(strcat(direktori,namafile));
g=rgb2gray(i);
set(proyek.figure1,'CurrentAxes',proyek.axes2);
set(imshow(i));
set(proyek.axes2,'Userdata',i);
set(proyek.figure1,'Userdata',i);

% ---------------------------------------------
function save_Callback(hObject, eventdata, handles)
    hObject    handle to save (see GCBO)
proyek=guidata(gcbo);
[namafile,direktori]=uiputfile({'*jpg';'*.'},'Simpan Gambar');
n=get(proyek.axes7,'Userdata');
imwrite(n,strcat(direktori,namafile));

function exit_Callback(hObject, eventdata, handles)
    close;
end

function print_Callback(hObject, eventdata, handles)
    printdlg;
end

function uipanel1_DeleteFcn(hObject, eventdata, handles)
end

function slider1_Callback(hObject, eventdata, handles)
end

% Hints: get(hObject,'Value') returns position of slider
% get(hObject,'Min') and get(hObject,'Max') to determine
% range of slider

function slider1_CreateFcn(hObject, eventdata, handles)
function axes9_CreateFcn(hObject, eventdata, handles)
% hObject    handle to axes9 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called
axes(hObject)
imshow('dj.PNG')

% Hint: place code in OpeningFcn to populate axes9

function axes10_CreateFcn(hObject, eventdata, handles)
% hObject    handle to axes10 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called
axes(hObject)
imshow('AM.PNG')

% Hint: place code in OpeningFcn to populate axes10

function axes11_CreateFcn(hObject, eventdata, handles)
% hObject    handle to axes11 (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    empty - handles not created until after all CreateFcns called
axes(hObject)
imshow('dj.PNG')

% Hint: place code in OpeningFcn to populate axes11