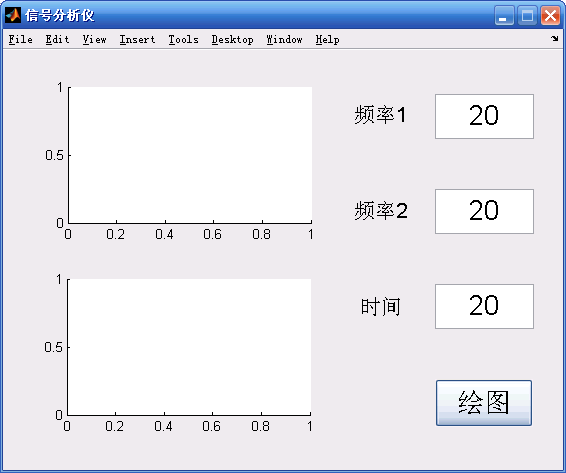
9.利用Matlab GUIDE设计一个简单信号分析仪的程序，要求根据输入的两个频率和时间间隔，计算函数 x=sin(2πf1t)+sin(2πf2t) 的值，并对函数进行快速傅立叶变换，最后分别绘制时域和频域的曲线。该实验将验收。



function varargout = untitled(varargin)

gui\_Singleton = 1;

gui\_State = struct('gui\_Name', mfilename, ...

'gui\_Singleton', gui\_Singleton, ...

'gui\_OpeningFcn', @untitled\_OpeningFcn, ...

'gui\_OutputFcn', @untitled\_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 untitled\_OpeningFcn(hObject, ~, handles, varargin)

handles.output = hObject;

guidata(hObject, handles);

function varargout = untitled\_OutputFcn(~, ~, handles)

varargout{1} = handles.output;

function f1\_input\_CreateFcn(hObject, ~, ~)

if ispc

set(hObject,'BackgroundColor','white');

else

set(hObject,'BackgroundColor',get(0,'defaultUicontrolBackgroundColor'));

end

function f2\_input\_CreateFcn(hObject, ~, ~)

if ispc

set(hObject,'BackgroundColor','white');

else

set(hObject,'BackgroundColor',get(0,'defaultUicontrolBackgroundColor'));

end

function t\_input\_CreateFcn(hObject, ~, ~)

if ispc

set(hObject,'BackgroundColor','white');

else

set(hObject,'BackgroundColor',get(0,'defaultUicontrolBackgroundColor'));

end

function pushbutton1\_Callback(~, ~, handles)

f1=str2double(get(handles.f1\_input,'String'));

f2=str2double(get(handles.f2\_input,'String'));

t=eval(get(handles.t\_input,'String'));

x=sin(4\*pi\*f1\*t)+sin(4\*pi\*f2\*t);

y=fft(x,520);

m=y.\*conj(y)/520;

f=1000\*(0:256)/520;

axes(handles.frequency\_axes)

plot(f,m(1:257))

set(handles.frequency\_axes,'XminorTick','on')

grid on

axes(handles.time\_axes)

plot(t,x)

set(handles.time\_axes,'XminorTick','on')

grid on

