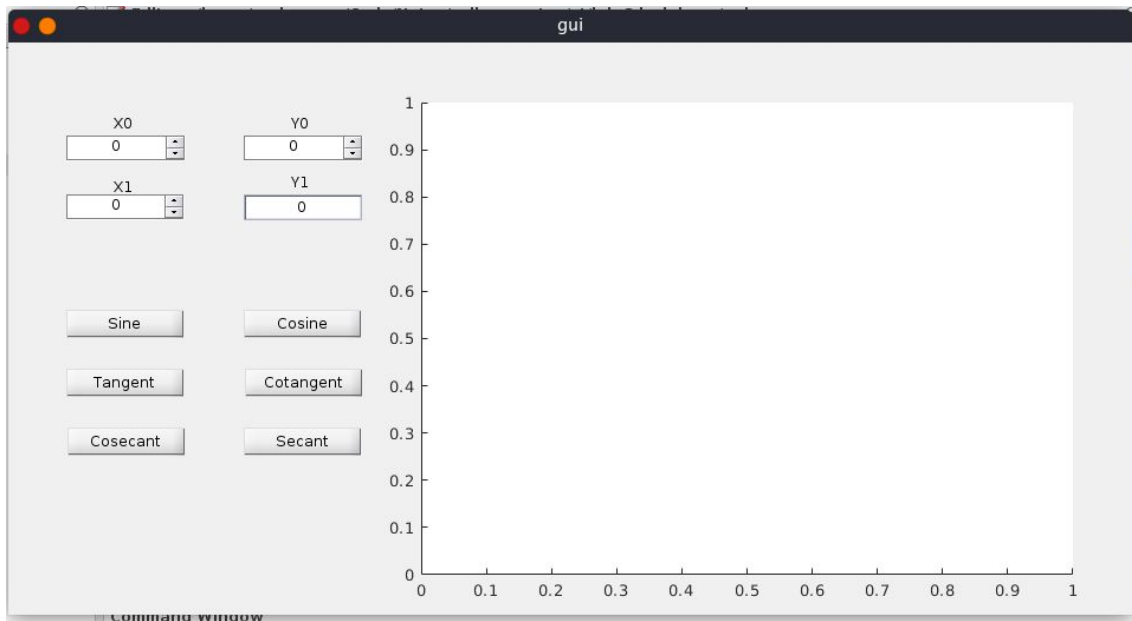# Software Tools Lab 7
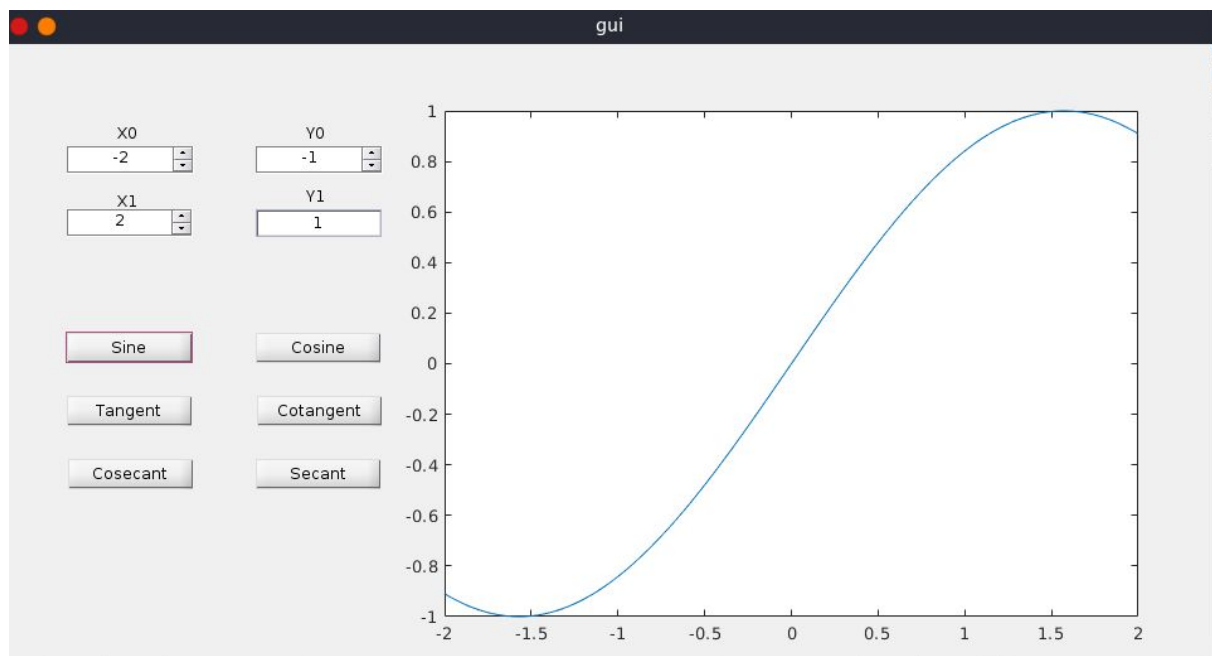
Roll No.: U18CO021
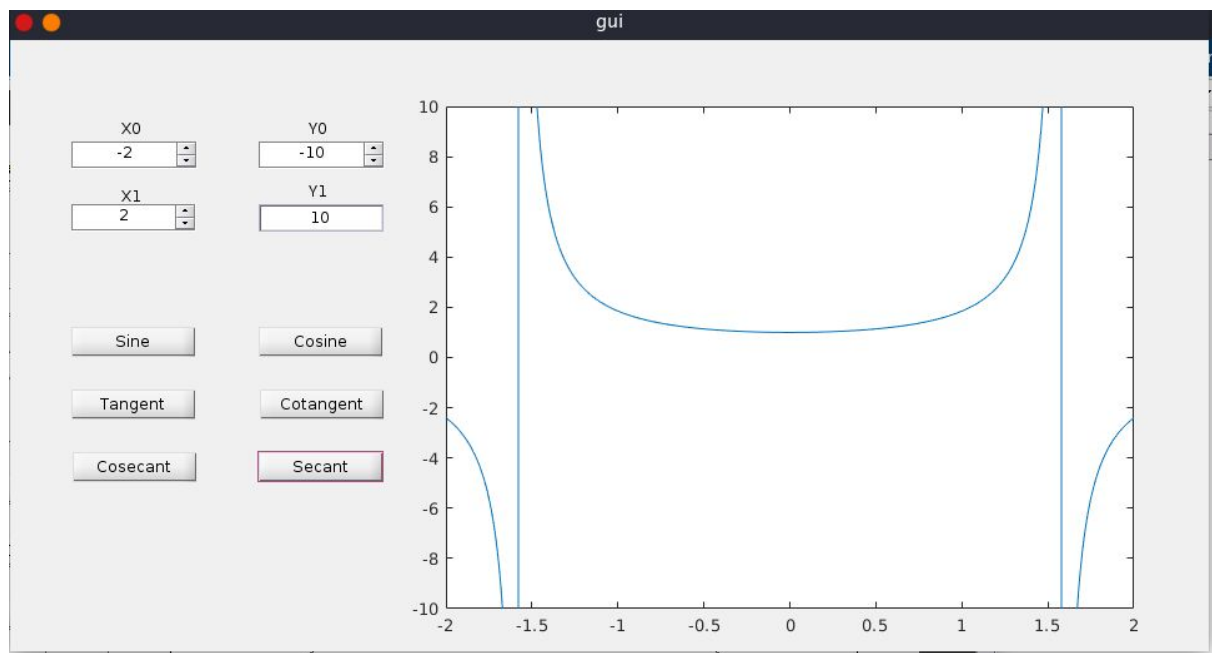

GUI on Start

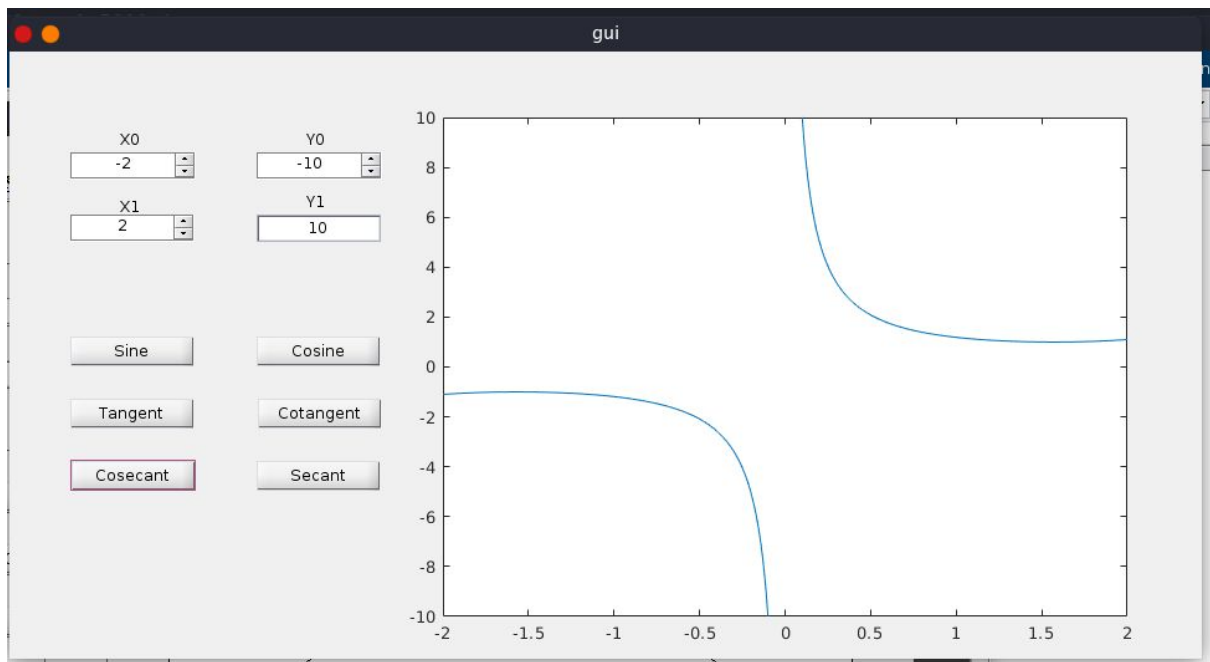

Sine Curve
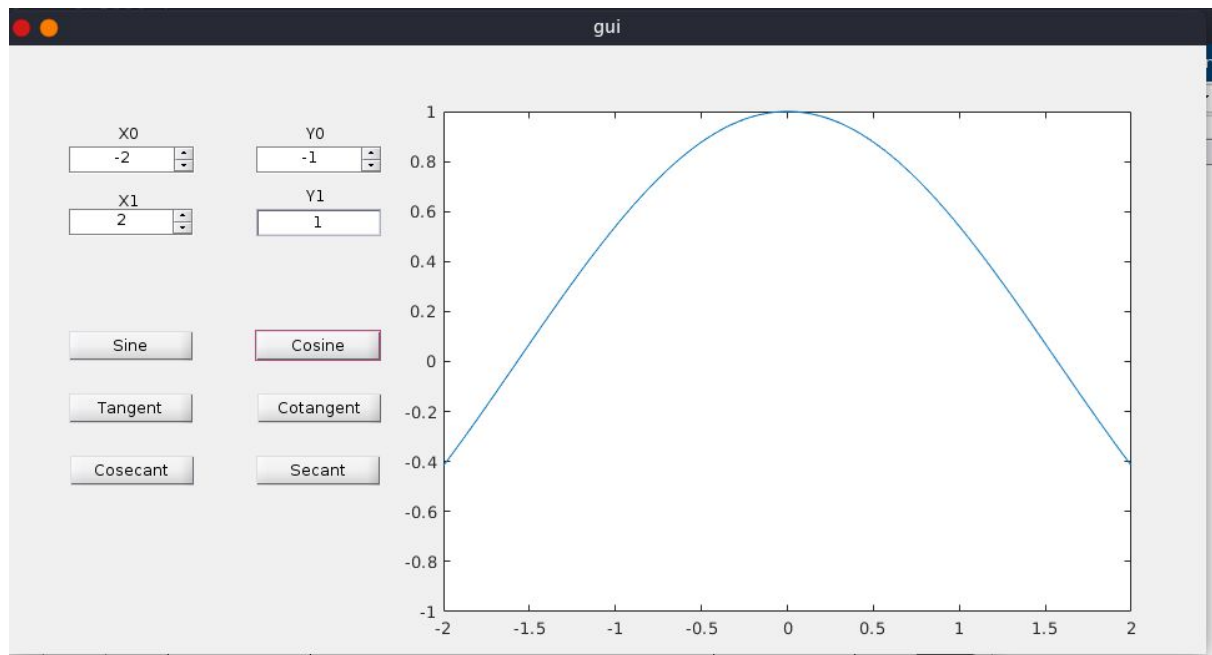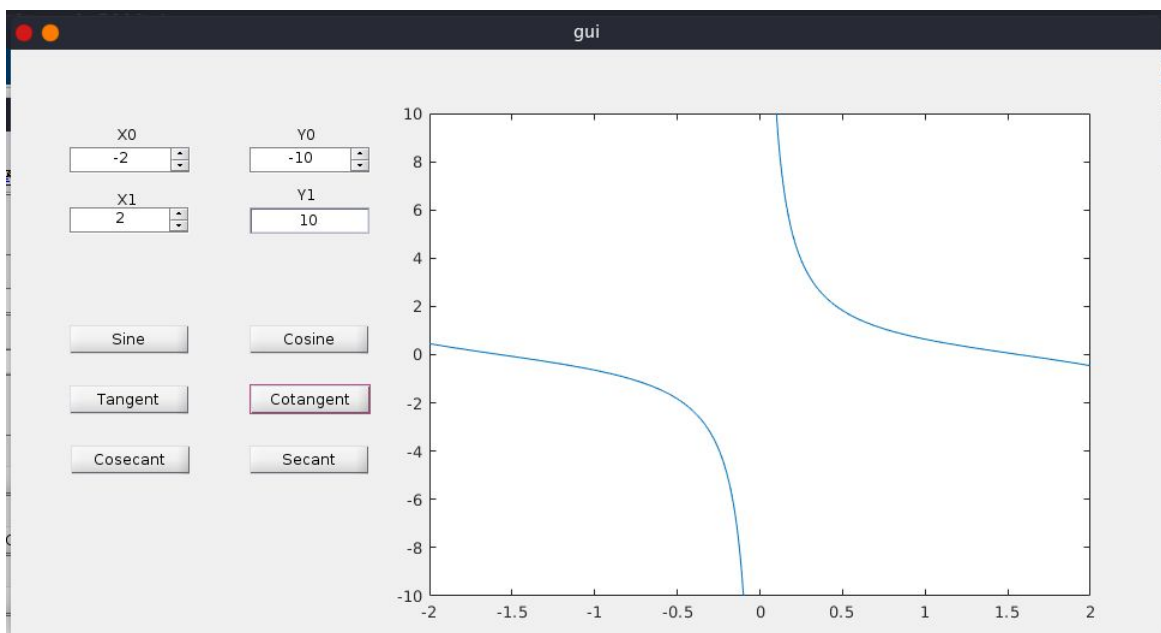
Cosine Curve
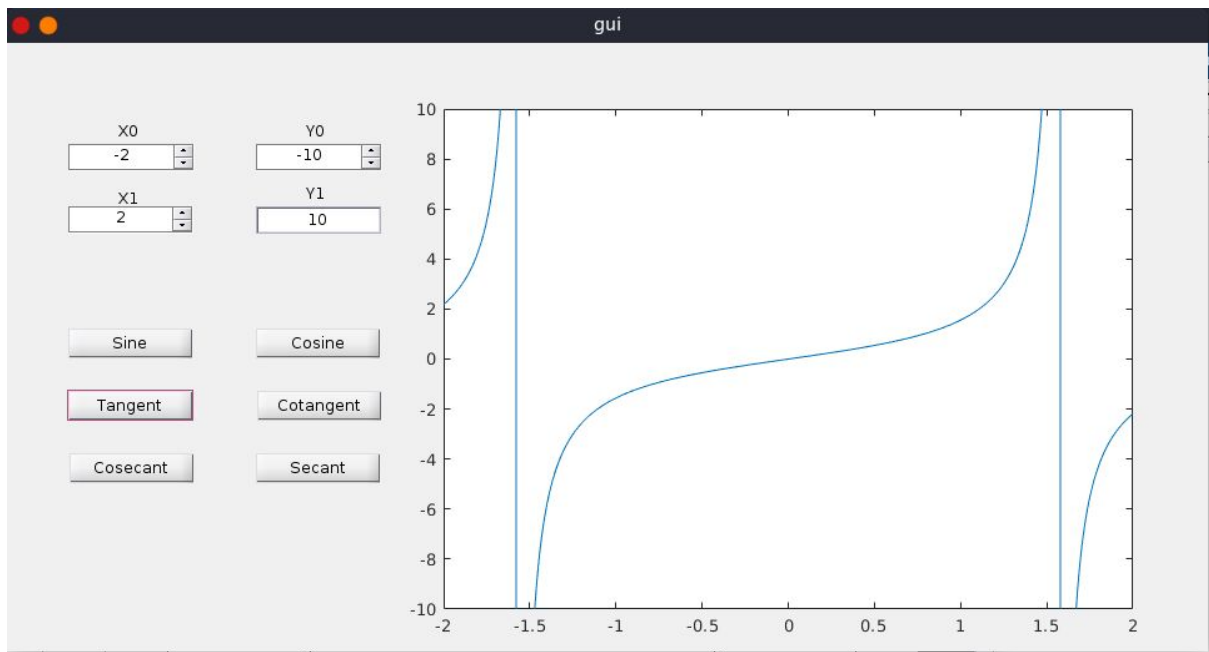

Secant Curve

Cosecant Curve

Cotangent Curve

Tangent Curve

```matlab
% gui.m
function varargout = gui(varargin)
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)

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

```matlab
% 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{1} = handles.output;


% --- Executes on button press in sine_button.
function sine_button_Callback(hObject, eventdata, handles)
% hObject    handle to sine_button (see GCBO)
% eventdata  reserved - to be defined in a future version of MATLAB
% handles    structure with handles and user data (see GUIDATA)
x0 = str2double(get(handles.x0_input, 'string'));
x1 = str2double(get(handles.x1_input, 'string'));
y0 = str2double(get(handles.y0_input, 'string'));
y1 = str2double(get(handles.y1_input, 'string'));
x = [x0:0.01:x1];
y = sin(x);
plot(x, y);
axis([x0 x1 y0 y1]);

% --- Executes on button press in cosine_button.
function cosine_button_Callback(hObject, eventdata, handles)
x0 = str2double(get(handles.x0_input, 'string'));
x1 = str2double(get(handles.x1_input, 'string'));
y0 = str2double(get(handles.y0_input, 'string'));
y1 = str2double(get(handles.y1_input, 'string'));
x = [x0:0.01:x1];
y = cos(x);
plot(x, y);
axis([x0 x1 y0 y1]);

% --- Executes on button press in cot_button.
function cot_button_Callback(hObject, eventdata, handles)
x0 = str2double(get(handles.x0_input, 'string'));
x1 = str2double(get(handles.x1_input, 'string'));
y0 = str2double(get(handles.y0_input, 'string'));
y1 = str2double(get(handles.y1_input, 'string'));
x = [x0:0.01:x1];
```

```matlab
y = cot(x);
plot(x, y);
axis([x0 x1 y0 y1]);


% --- Executes on button press in tan_button.
function tan_button_Callback(hObject, eventdata, handles)
x0 = str2double(get(handles.x0_input, 'string'));
x1 = str2double(get(handles.x1_input, 'string'));
y0 = str2double(get(handles.y0_input, 'string'));
y1 = str2double(get(handles.y1_input, 'string'));
x = [x0:0.01:x1];
y = tan(x);
plot(x, y);
axis([x0 x1 y0 y1]);



% --- Executes on button press in cosec_button.
function cosec_button_Callback(hObject, eventdata, handles)
x0 = str2double(get(handles.x0_input, 'string'));
x1 = str2double(get(handles.x1_input, 'string'));
y0 = str2double(get(handles.y0_input, 'string'));
y1 = str2double(get(handles.y1_input, 'string'));
x = [x0:0.01:x1];
y = csc(x);
plot(x, y);
axis([x0 x1 y0 y1]);


% --- Executes on button press in sec_button.
function sec_button_Callback(hObject, eventdata, handles)
x0 = str2double(get(handles.x0_input, 'string'));
x1 = str2double(get(handles.x1_input, 'string'));
y0 = str2double(get(handles.y0_input, 'string'));
y1 = str2double(get(handles.y1_input, 'string'));
x = [x0:0.01:x1];
y = sec(x);
plot(x, y);
axis([x0 x1 y0 y1]);
```