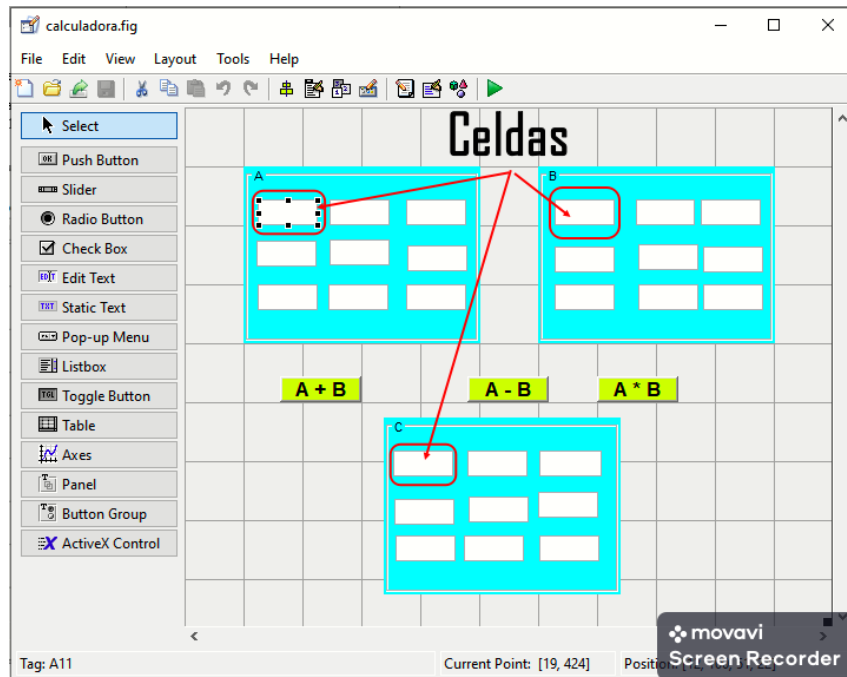


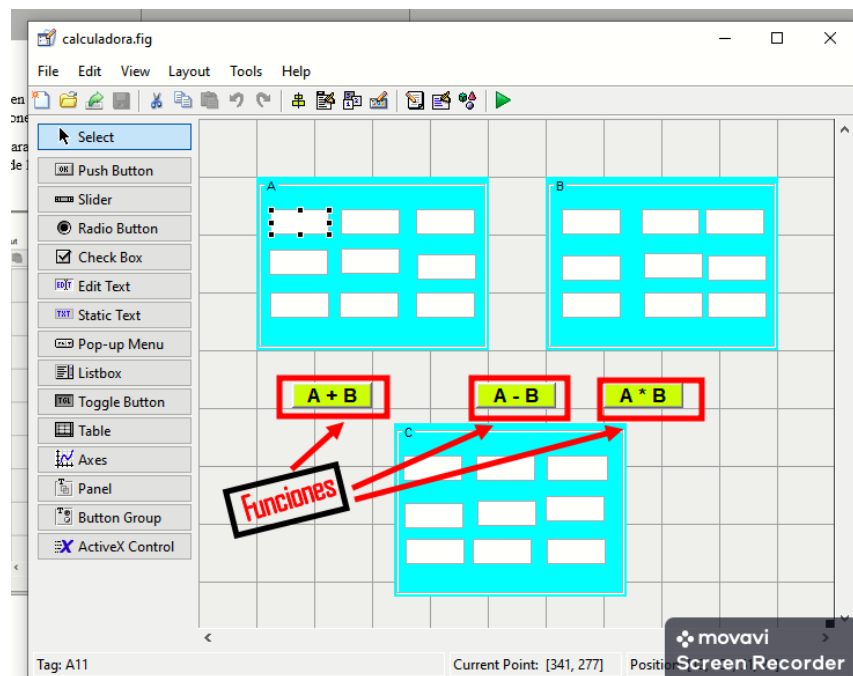
Manual técnico

La calculadora consiste en hacer tres operaciones suma resta producto escalar de matrices cuadradas, con las mismas dimensiones

Se agrego tres paneles para identificar las matrices A, B y C , también se utilizaron los edit Tex para hacer uso de las celdas de las matrices, se utilizo tres Push Button para cada función suma resta y multiplicación,

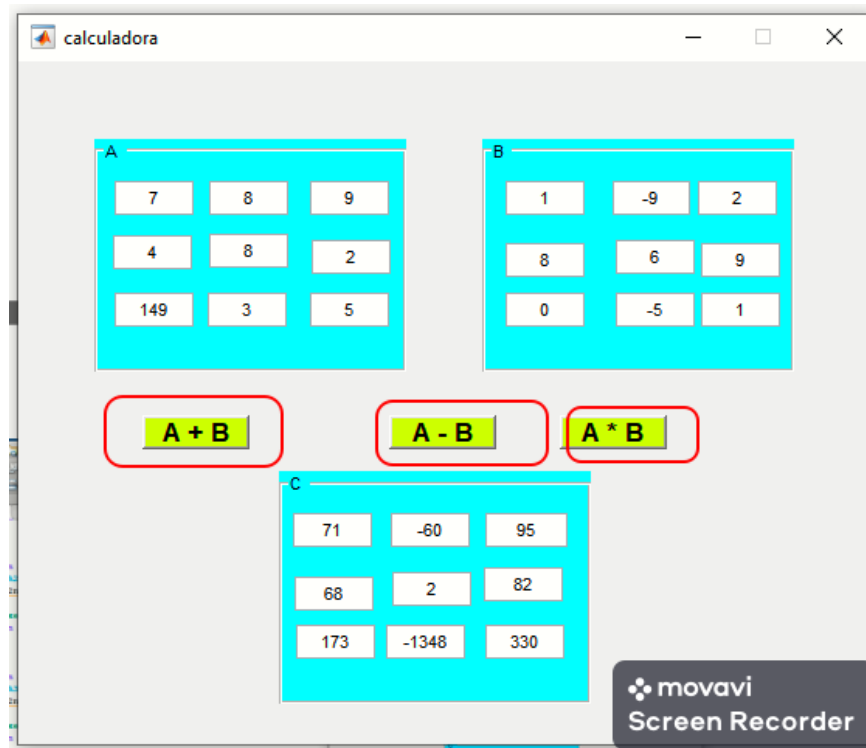


Utilización de Puch Button para las funciones



El uso correspondiente de las funciones de la calculadora

El usuario deberá de llenar cada una de las celdas de las matrices A y B para que la calculadora pueda realizar las operaciones de igual forma para las restas y la multiplicación de deberán de llenar las celdas de la matrices



El código que se utilizó en la calculadora para cada una de sus funciones

% --- Executes on button press in SUMA.

function SUMA_Callback(hObject, eventdata, handles)

% devlarando cada una de la celdad de las matrices A y B

global A11;

global A12;

global A13;

global A21;

global A22;

global A23;

global A31;

global A32;

global A33;

global B11;

global B12;

global B13;

global B21;

global B22;

global B23;

global B31;

global B32;

global B33;

% Operaciones de la suma de cada una de las celdas de las dos matrices

% las operaciones se cuadarán en una variables

D=A11+B11;

E=A12+B12;

F=A13+B13;

G=A21+B21;

H=A22+B22;

I=A23+B23;

J=A31+B31;

K=A32+B32;

L=A33+B33;

% las variables que contienen las operaciones se imprimirán las matrices

% asignado a cada una de las variables en las respectivas celdas

set(handles.C11,'string',D);

set(handles.C12,'string',E);

set(handles.C13,'string',F);

set(handles.C21,'string',G);

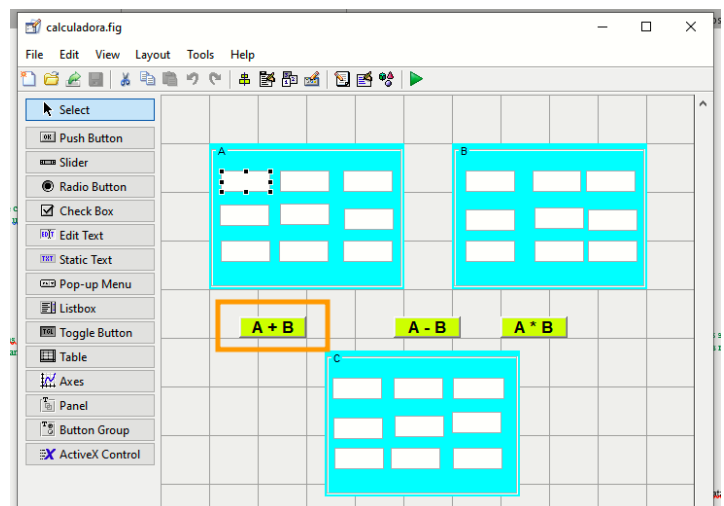
set(handles.C22,'string',H);

set(handles.C23,'string',I);

set(handles.C31,'string',J);

set(handles.C32,'string',K);

set(handles.C33,'string',L);



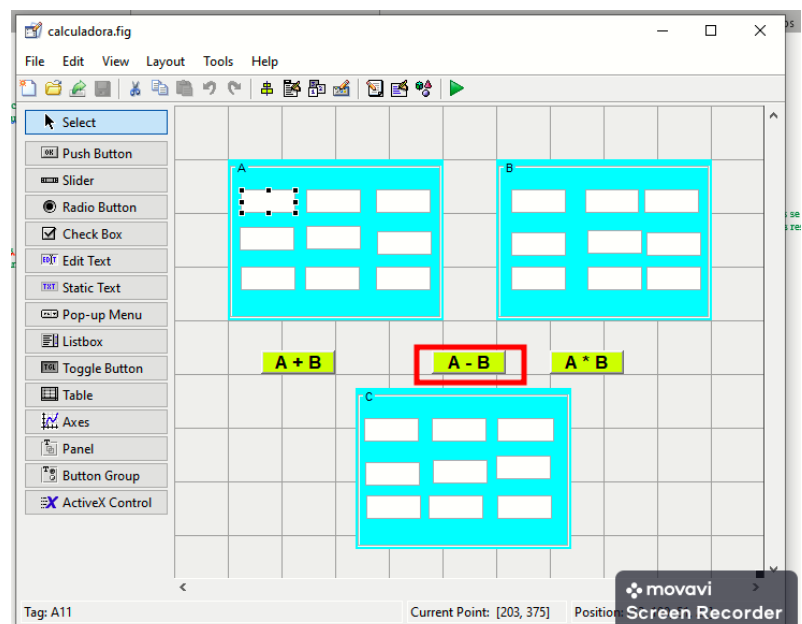
```
% --- Executes on button press in RESTA.
function RESTA_Callback(hObject, eventdata, handles)
```

```
global A12;
global A13;
global A21;
global A22;
global A23;
global A31;
global A32;
global A33;
global B11;
global B12;
global B13;
global B21;
global B22;
global B23;
global B31;
global B32;
global B33;
```

```
D=A11-B11;
E=A12-B12;
F=A13-B13;
G=A21-B21;
H=A22-B22;
I=A23-B23;
J=A31-B31;
K=A32-B32;
L=A33-B33;
```

```
%las variables que contienen las operaciones se imprimiran las matrices
%asignado a cada una de las variables en las respectivas celdas
```

```
set(handles.C11,'string',D);
set(handles.C12,'string',E);
set(handles.C13,'string',F);
set(handles.C21,'string',G);
set(handles.C22,'string',H);
set(handles.C23,'string',I);
set(handles.C31,'string',J);
set(handles.C32,'string',K);
set(handles.C33,'string',L);
```

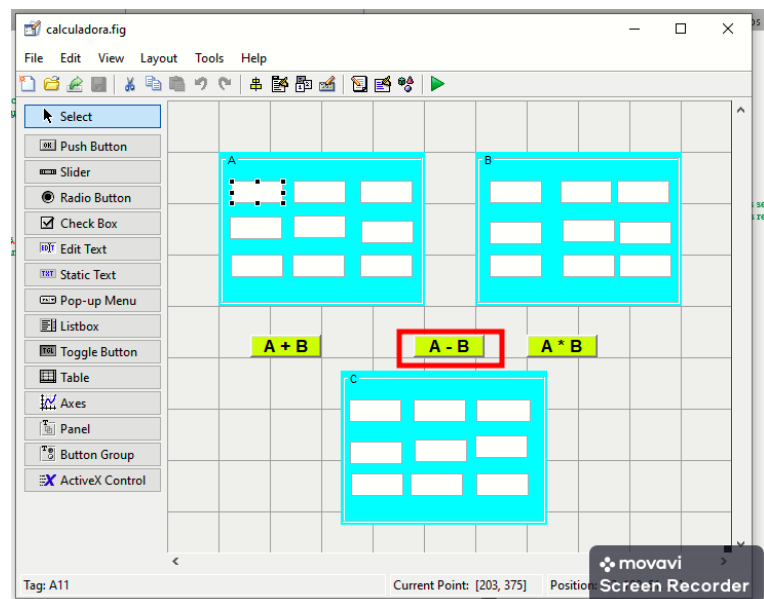


```

% --- Executes on button press in MULTI.
function MULTI_Callback(hObject, eventdata, handles)

global A12;
global A13;
global A21;
global A22;
global A23;
global A31;
global A32;
global A33;
global B11;
global B12;
global B13;
global B21;
global B22;
global B23;
global B31;
global B32;
global B33;
% las operaciones entre fila de A y columna de B; se guardaran en en su
% variables espectivo
D=(A11*B11)+(A12*B21)+(A13*B31);
E=(A11*B12)+(A12*B22)+(A13*B32);
F=(A11*B13)+(A12*B23)+(A13*B33);
G=(A21*B11)+(A22*B21)+(A23*B31);
H=(A21*B12)+(A22*B22)+(A23*B32);
I=(A21*B13)+(A22*B23)+(A23*B33);
J=(A31*B11)+(A32*B21)+(A33*B31);
K=(A31*B12)+(A32*B22)+(A33*B32);
L=(A31*B13)+(A32*B23)+(A33*B33);
%se desblegara los valores de cada de los valores de las operacioens que se
%realizo anteriormente, guardadas en sus variables e impresas en cada uno
%de las celdas de la matriz C
set(handles.C11,'string',D);
set(handles.C12,'string',E);
set(handles.C13,'string',F);
set(handles.C21,'string',G);
set(handles.C22,'string',H);
set(handles.C23,'string',I);
set(handles.C31,'string',J);
set(handles.C32,'string',K);
set(handles.C33,'string',L);

```



VALOR DE CADA UNA DE LAS CELDAS DE LA MATRIZ C

```
function C11_Callback(hObject, eventdata, handles)
```

```
global C11;  
C11=str2num(get(hObject,'String'));
```

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

```
function C11_CreateFcn(hObject, eventdata, handles)
```

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

```
function C12_Callback(hObject, eventdata, handles)
```

```
global C12;  
C12=str2num(get(hObject,'String'));
```

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

```
function C12_CreateFcn(hObject, eventdata, handles)
```

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

```
function C13_Callback(hObject, eventdata, handles)
```

```
global C13;  
C13=str2num(get(hObject,'String'));
```

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

```
function C13_CreateFcn(hObject, eventdata, handles)
```

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

```
function C21_Callback(hObject, eventdata, handles)
```

```

global C21;
C21=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function C21_CreateFcn(hObject, eventdata, handles)

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

```

```

function C22_Callback(hObject, eventdata, handles)

global C22;
C22=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function C22_CreateFcn(hObject, eventdata, handles)

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

```

```

function C23_Callback(hObject, eventdata, handles)

global C23;
C23=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function C23_CreateFcn(hObject, eventdata, handles)

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

```

```

function C31_Callback(hObject, eventdata, handles)

C31=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function C31_CreateFcn(hObject, eventdata, handles)

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

```

end

```
function C32_Callback(hObject, eventdata, handles)
```

```
global C32;  
C32=str2num(get(hObject,'String'));
```

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

```
function C32_CreateFcn(hObject, eventdata, handles)
```

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

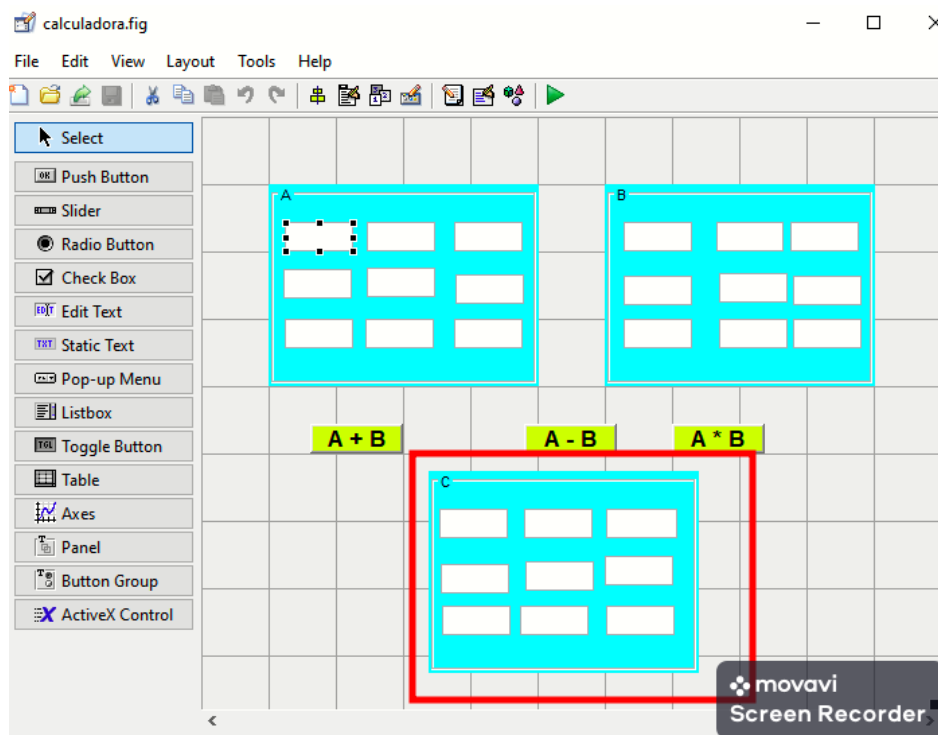
```
function C33_Callback(hObject, eventdata, handles)
```

```
global C33;  
C33=str2num(get(hObject,'String'));
```

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

```
function C33_CreateFcn(hObject, eventdata, handles)
```

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




```

function B11_Callback(hObject, eventdata, handles)

global B11;
B11=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function B11_CreateFcn(hObject, eventdata, handles)

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

```

```

function B12_Callback(hObject, eventdata, handles)

global B12;
B12=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function B12_CreateFcn(hObject, eventdata, handles)

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

```

```

function B13_Callback(hObject, eventdata, handles)
global B13;
B13=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function B13_CreateFcn(hObject, eventdata, handles)

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

```

```

function B21_Callback(hObject, eventdata, handles)

global B21;
B21=str2num(get(hObject,'String'));

```

```
% --- Executes during object creation, after setting all properties.
function B21_CreateFcn(hObject, eventdata, handles)
.
if ispc && isequal(get(hObject,'BackgroundColor'), get(0,'defaultUicontrolBackgroundColor'))
    set(hObject,'BackgroundColor','white');
end
```

```
function B22_Callback(hObject, eventdata, handles)
```

```
global B22;
B22=str2num(get(hObject,'String'));
```

```
% --- Executes during object creation, after setting all properties.
function B22_CreateFcn(hObject, eventdata, handles)
% hObject    handle to B22 (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 B23_Callback(hObject, eventdata, handles)
```

```
global B23;
B23=str2num(get(hObject,'String'));
```

```
% --- Executes during object creation, after setting all properties.
function B23_CreateFcn(hObject, eventdata, handles)
% hObject    handle to B23 (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 B31_Callback(hObject, eventdata, handles)
```

```
global B31;
```

```
B31=str2num(get(hObject,'String'));
```

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

```
function B31_CreateFcn(hObject, eventdata, handles)
```

```
% hObject    handle to B31 (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 B32_Callback(hObject, eventdata, handles)
```

```
global B32;
```

```
B32=str2num(get(hObject,'String'));
```

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

```
function B32_CreateFcn(hObject, eventdata, handles)
```

```
% hObject    handle to B32 (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 B33_Callback(hObject, eventdata, handles)
```

```
global B33;
```

```
B33=str2num(get(hObject,'String'));
```

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

```
function B33_CreateFcn(hObject, eventdata, handles)
```

```
% hObject    handle to B33 (see GCBO)
```

```
% eventdata  reserved - to be defined in a future version of MATLAB
```

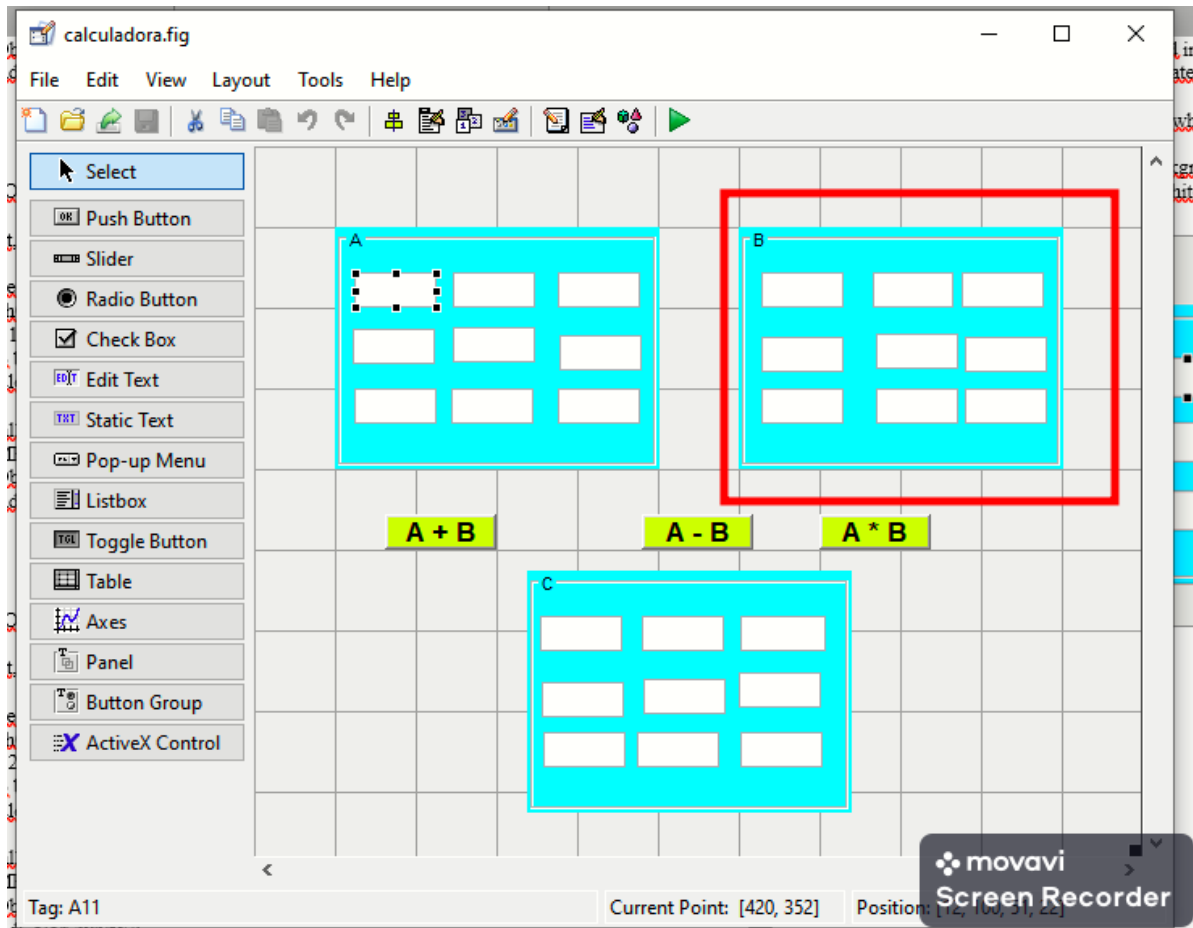
```
% handles    empty - handles not created until after all CreateFcns called
```

```
% 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 A11_Callback(hObject, eventdata, handles)
global A11;
A11=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function A11_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A11 (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 A12_Callback(hObject, eventdata, handles)
global A12;
A12=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function A12_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A12 (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 A13_Callback(hObject, eventdata, handles)

global A13;
A13=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function A13_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A13 (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 A21_Callback(hObject, eventdata, handles)
global A21;
A21=str2num(get(hObject,'String'));

```

```
% --- Executes during object creation, after setting all properties.
function A21_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A21 (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 A22_Callback(hObject, eventdata, handles)
global A22;
A22=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function A22_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A22 (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 A23_Callback(hObject, eventdata, handles)
global A23;
A23=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function A23_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A23 (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 A31_Callback(hObject, eventdata, handles)
global A31;
A31=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function A31_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A31 (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 A32_Callback(hObject, eventdata, handles)

A32=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function A32_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A32 (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 A33_Callback(hObject, eventdata, handles)
global A33;
A33=str2num(get(hObject,'String'));

% --- Executes during object creation, after setting all properties.
function A33_CreateFcn(hObject, eventdata, handles)
% hObject    handle to A33 (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

```

