

Anexo

Anexo: Código de los módulos de Scilab

Asignación periodos.sce

```
0001 function [periodos]=AsignacionPeriodos(diasemana, mes, diames, ndias)
0002 A=[6 6 6 6 6 6 6 6 2 2 1 1 1 1 2 2 2 2 1 1 1 1 2 2];
0003 B=[6 6 6 6 6 6 6 6 4 4 3 3 3 3 4 4 4 4 3 3 3 3 4 4];
0004 C=[6 6 6 6 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5];
0005 D=[6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6];
0006 periodos=[];
0007 for i=1:ndias
0008     if (diasemana(i)==6 | diasemana(i)==0) then
0009         sigperiodos=D;
0010     elseif (mes(i)==1 | mes(i)==2 | mes(i)==3 | mes(i)==11 | mes(i)==12) then
0011         sigperiodos=A;
0012     elseif (mes(i)==6 | mes(i)==7 | mes(i)==8 | mes(i)==9 | mes(i)==10) then
0013         sigperiodos=B;
0014     elseif(mes(i)==4 | mes(i)==5)
0015         sigperiodos=C;
0016     else sigperiodos=zeros(1,24);
0017     end
0018     periodos=[periodos;sigperiodos];
0019 end
0020 endfunction
```

Coste.sce

```
0001 function [coste]=Coste(precio, pot)
0002 coste=0;
0003 for i=1:6
0004     n=pot(i)+1
0005     sigcoste=precio(i,n)
0006     coste=coste+sigcoste
0007 end
0008 endfunction
```

CrearConsumo.sce

```
0001 function CrearConsumo(diasemana, mes, diames, ndias, A, B, C, D, archivo)
0002 consumo=[];
0003 for i=1:ndias
0004     if (diasemana(i)==6 | diasemana(i)==0) then
0005         sigconsumo=D;
0006     elseif (mes(i)==1 | mes(i)==2 | mes(i)==3 | mes(i)==11 | mes(i)==12) then
0007         sigconsumo=A;
0008     elseif (mes(i)==6 | mes(i)==7 | mes(i)==8 | mes(i)==9 | mes(i)==10) then
0009         sigconsumo=B;
0010     elseif(mes(i)==4 | mes(i)==5)
0011         sigconsumo=C;
0012     else sigconsumo=zeros(1,24);
0013     end
0014     consumo=[consumo;sigconsumo];
0015 end
0016 fprintfMat(archivo,consumo);
0017 endfunction
```

Dia1.sce

```
0001 function [dia1]=Dia1(year)
0002 a=modulo(year,400)
0003 d=floor(a/100)*5
0004 a=modulo(a,100)
0005 if a==0 then a=99
0006     else a=a-1
0007 end
0008 a=a+floor(a/4)
0009 d=d+a
0010 dia1=modulo(d,7)+1
0011 endfunction
```

EsBisiesto.sce

```
0001 function [bisiesto, ndias]=EsBisiesto(year)
0002 bisiesto=(~modulo(year,4)&modulo(year,100))|~modulo(year,400)
0003 ndias=365+bisiesto
0004 endfunction
```

GUICrearConsumo.sce

```
0001 // This GUI file is generated by guibuilder version 2.2
0002 ///////////
0003
f=figure('figure_position',[375,50],'figure_size',[1053,746],'auto_resize','on','background',[33],'figure_name','Graphic window number %d');
0004 ///////////
0005 delmenu(f.figure_id,gettext('File'))
0006 delmenu(f.figure_id,gettext('?'))
0007 delmenu(f.figure_id,gettext('Tools'))
0008 toolbar(f.figure_id,'off')
0009 handles.dummy = 0;
0010
handles.Titulo=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[18],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.3734375,0.9049206,0.2665625,0.0773016],'Relief','flat','SliderStep',[0.01,0.1],'String','Aplicar Consumo según días','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Titulo','Callback','')
0011
handles.ano=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.3927027,0.2470962,0.05,0.04],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','ano','Callback','')
0012
handles.info1=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0180055,0.8338095,0.24875,0.0553175],'Relief','flat','SliderStep',[0.01,0.1],'String','Enero, Febrero, Marzo, Noviembre y Diciembre','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','info1','Callback','')
0013
handles.input1_0=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0180055,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_0','Callback','')
0014
handles.input1_1=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0577803,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_1','Callback','')
```

```
handles.input1_2=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0975551,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_2','Callback','')
```

0016

```
handles.input1_3=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.1373299,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_3','Callback','')
```

0017

```
handles.input1_4=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.1771047,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_4','Callback','')
```

0018

```
handles.input1_5=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.2168795,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_5','Callback','')
```

0019

```
handles.input1_6=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.2566542,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_6','Callback','')
```

0020

```
handles.input1_7=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.296429,0.781111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_7','Callback','')
```

0021

```
handles.input1_8=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.3362038,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_8','Callback','')
```

0022

```
handles.input1_9=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.3759786,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_9','Callback','')
```

0023

```
handles.input1_10=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.4157534,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_10','Callback''')
```

0024

```
handles.input1_11=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment',  
'center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.4555282,0.7811111,0.0381717,0.0396032],'Reli  
euf','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','i  
nput1_11','Callback'))
```

0025

```
handles.input1_12=icontrol('f','unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont
```


0036

```
handles.input1_23=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.9328257,0.7811111,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input1_23','Callback','')
```

0037

```
handles.info2=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.0180055,0.7,0.22875,0.0553175],'Relief','flat','SliderStep',[0.01,0.1],'String','Junio, Julio, Agosto, Septiembre y Octubre','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','info2','Callback','')
```

0038

```
handles.input2_0=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.0180055,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_0','Callback','')
```

0039

```
handles.input2_1=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.0577803,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_1','Callback','')
```

0040

```
handles.input2_2=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.0975551,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_2','Callback','')
```

0041

```
handles.input2_3=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.1373299,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_3','Callback','')
```

0042

```
handles.input2_4=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.1771047,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_4','Callback','')
```

0043

```
handles.input2_5=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.2168795,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_5','Callback','')
```

0044

```
handles.input2_6=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.2566542,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_6','Callback','')
```

0045

```
handles.input2_7=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.296429,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_7','Callback','')
```

0046

```
handles.input2_8=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.296429,0.65,0.0381717,0.0396032],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2_8','Callback','')
```

```

Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.3362038,0.65,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2_8'
, 'Callback','')
0047
handles.input2_9=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.3759786,0.65,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2_9'
, 'Callback','')
0048
handles.input2_10=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.4157534,0.65,0.0381717,0.0396032], 'Relief','su
nken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2
_10', 'Callback','')
0049
handles.input2_11=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.4555282,0.65,0.0381717,0.0396032], 'Relief','su
nken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2
_11', 'Callback','')
0050
handles.input2_12=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.495303,0.65,0.0381717,0.0396032], 'Relief','sun
ken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2_1
2', 'Callback','')
0051
handles.input2_13=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.5350778,0.65,0.0381717,0.0396032], 'Relief','su
nken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2
_13', 'Callback','')
0052
handles.input2_14=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.5748526,0.65,0.0381717,0.0396032], 'Relief','su
nken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2
_14', 'Callback','')
0053
handles.input2_15=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.6146274,0.65,0.0381717,0.0396032], 'Relief','su
nken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2
_15', 'Callback','')
0054
handles.input2_16=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.6544022,0.65,0.0381717,0.0396032], 'Relief','su
nken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2
_16', 'Callback','')
0055
handles.input2_17=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.694177,0.65,0.0381717,0.0396032], 'Relief','sun
ken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2_1
7', 'Callback','')
0056
handles.input2_18=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.7339517,0.65,0.0381717,0.0396032], 'Relief','su
nken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input2
_18', 'Callback','')

```

0057

```
handles.input2_19=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.7737265,0.65,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2  
_19','Callback','')
```

0058

```
handles.input2_20=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.8135013,0.65,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2  
_20','Callback','')
```

0059

```
handles.input2_21=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.8532761,0.65,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2  
_21','Callback','')
```

0060

```
handles.input2_22=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.8930509,0.65,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2  
_22','Callback','')
```

0061

```
handles.input2_23=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.9328257,0.65,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input2  
_23','Callback','')
```

0062

```
handles.info3=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','Font  
Name','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlig  
nment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0180055,0.57,0.06875,0.0553175],'Relief','flat','Slider  
Step',[0.01,0.1],'String','Abril y  
Mayo','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','info3','Callback','')
```

0063

```
handles.input3_0=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','F  
ontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
Alignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0180055,0.52,0.0381717,0.0396032],'Relief','sunk  
en','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3_0'  
, 'Callback','')
```

0064

```
handles.input3_1=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','F  
ontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
Alignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0577803,0.52,0.0381717,0.0396032],'Relief','sunk  
en','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3_1'  
, 'Callback','')
```

0065

```
handles.input3_2=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','F  
ontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
Alignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0975551,0.52,0.0381717,0.0396032],'Relief','sunk  
en','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3_2'  
, 'Callback','')
```

0066

```
handles.input3_3=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','F  
ontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
Alignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.1373299,0.52,0.0381717,0.0396032],'Relief','sunk  
en','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3_3'  
, 'Callback','')
```

0067

```
handles.input3_4=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','F  
ontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal
```


0078

```
handles.input3_15=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.6146274,0.52,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3  
_15','Callback','')
```

0079

```
handles.input3_16=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.6544022,0.52,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3  
_16','Callback','')
```

0080

```
handles.input3_17=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.694177,0.52,0.0381717,0.0396032],'Relief','sun  
ken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3_1  
7','Callback','')
```

0081

```
handles.input3_18=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.7339517,0.52,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3  
_18','Callback','')
```

0082

```
handles.input3_19=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.7737265,0.52,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3  
_19','Callback','')
```

0083

```
handles.input3_20=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.8135013,0.52,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3  
_20','Callback','')
```

0084

```
handles.input3_21=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.8532761,0.52,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3  
_21','Callback','')
```

0085

```
handles.input3_22=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.8930509,0.52,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3  
_22','Callback','')
```

0086

```
handles.input3_23=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.9328257,0.52,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input3  
_23','Callback','')
```

0087

```
handles.info4=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','Font  
Name','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlig  
nment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.0180055,0.44,0.11875,0.0553175],'Relief','flat','Slider  
Step',[0.01,0.1],'String','Sábados y  
Domingos','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','info4','Callback','')
```

0088

```
handles.input4_0=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','F  
ontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizontal
```

```

Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.0180055,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_0'
,'Callback','')
0089
handles.input4_1=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.0577803,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_1'
,'Callback','')
0090
handles.input4_2=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.0975551,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_2'
,'Callback','')
0091
handles.input4_3=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.1373299,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_3'
,'Callback','')
0092
handles.input4_4=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.1771047,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_4'
,'Callback','')
0093
handles.input4_5=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.2168795,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_5'
,'Callback','')
0094
handles.input4_6=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.2566542,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_6'
,'Callback','')
0095
handles.input4_7=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.296429,0.39,0.0381717,0.0396032], 'Relief','sunke
n','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_7'
,'Callback','')
0096
handles.input4_8=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.3362038,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_8'
,'Callback','')
0097
handles.input4_9=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'F
ontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizontal
Alignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.3759786,0.39,0.0381717,0.0396032], 'Relief','sunk
en','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_9'
,'Callback','')
0098
handles.input4_10=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal',
'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'Horizont
alAlignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.4157534,0.39,0.0381717,0.0396032], 'Relief','su
nken','SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4
_10', 'Callback','')

```

0099

```
handles.input4_11=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.4555282,0.39,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4  
_11','Callback','')
```

0100

```
handles.input4_12=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.495303,0.39,0.0381717,0.0396032],'Relief','sun  
ken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4_1  
2','Callback','')
```

0101

```
handles.input4_13=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.5350778,0.39,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4  
_13','Callback','')
```

0102

```
handles.input4_14=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.5748526,0.39,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4  
_14','Callback','')
```

0103

```
handles.input4_15=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.6146274,0.39,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4  
_15','Callback','')
```

0104

```
handles.input4_16=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.6544022,0.39,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4  
_16','Callback','')
```

0105

```
handles.input4_17=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.694177,0.39,0.0381717,0.0396032],'Relief','sun  
ken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4_1  
7','Callback','')
```

0106

```
handles.input4_18=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.7339517,0.39,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4  
_18','Callback','')
```

0107

```
handles.input4_19=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.7737265,0.39,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4  
_19','Callback','')
```

0108

```
handles.input4_20=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont  
alAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.8135013,0.39,0.0381717,0.0396032],'Relief','su  
nken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','input4  
_20','Callback','')
```

0109

```
handles.input4_21=uicontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal',  
'FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'Horizont
```

```

alAlignment','center','ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.8532761,0.39,0.0381717,0.0396032], 'Relief','sunken', 'SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_21', 'Callback','')
0110
handles.input4_22=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'HorizontalAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.8930509,0.39,0.0381717,0.0396032], 'Relief','sunken', 'SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_22', 'Callback','')
0111
handles.input4_23=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'HorizontalAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.9328257,0.39,0.0381717,0.0396032], 'Relief','sunken', 'SliderStep',[0.01,0.1], 'String','', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','input4_23', 'Callback','')
0112
handles.Begin=icontrol(f,'unit','normalized','BackgroundColor',[0.6,0.6,0.6], 'Enable','on', 'FontAngle','normal', 'FontName','helvetica', 'FontSize',[16], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'HorizontalAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.4106763,0.0810559,0.1920849,0.0667702], 'Relief','raised', 'SliderStep',[0.01,0.1], 'String','Generar consumos', 'Style','pushbutton', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','Begin', 'Callback','CrearConsumo')
0113
handles.output=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'HorizontalAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.6274131,0.2438043,0.0752896,0.0465839], 'Relief','sunken', 'SliderStep',[0.01,0.1], 'String','Consumo.txt', 'Style','edit', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','output', 'Callback','')
0114
handles.Textoano=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'HorizontalAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.3298069,0.2430279,0.0501931,0.0481366], 'Relief','flat', 'SliderStep',[0.01,0.1], 'String','Año:', 'Style','text', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','Textoano', 'Callback','')
0115
handles.Textooutput=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8], 'Enable','on', 'FontAngle','normal', 'FontName','helvetica', 'FontSize',[12], 'FontUnits','points', 'FontWeight','normal', 'ForegroundColor',[0,0,0], 'HorizontalAlignment','center', 'ListboxTop',[0], 'Max',[1], 'Min',[0], 'Position',[0.5102703,0.2399223,0.1042471,0.0543478], 'Relief','flat', 'SliderStep',[0.01,0.1], 'String','Archivo de salida:', 'Style','text', 'Value',[0], 'VerticalAlignment','middle', 'Visible','on', 'Tag','Textoutput', 'Callback','')
0116
0117 ///////////////
0118 // Callbacks are defined as below. Please do not delete the comments as it will be used in coming version
0119 ///////////////
0120
0121 function
0122 //Write your callback for Begin here
0123 A(1)=strtod(handles.input1_0.string)
0124 A(2)=strtod(handles.input1_1.string)
0125 A(3)=strtod(handles.input1_2.string)
0126 A(4)=strtod(handles.input1_3.string)
0127 A(5)=strtod(handles.input1_4.string)
0128 A(6)=strtod(handles.input1_5.string)
0129 A(7)=strtod(handles.input1_6.string)
0130 A(8)=strtod(handles.input1_7.string)
0131 A(9)=strtod(handles.input1_8.string)
0132 A(10)=strtod(handles.input1_9.string)
0133 A(11)=strtod(handles.input1_10.string)
0134 A(12)=strtod(handles.input1_11.string)
0135 A(13)=strtod(handles.input1_12.string)
0136 A(14)=strtod(handles.input1_13.string)
0137 A(15)=strtod(handles.input1_14.string)
0138 A(16)=strtod(handles.input1_15.string)

```

```

0139 A(17)=strtod(handles.input1_16.string)
0140 A(18)=strtod(handles.input1_17.string)
0141 A(19)=strtod(handles.input1_18.string)
0142 A(20)=strtod(handles.input1_19.string)
0143 A(21)=strtod(handles.input1_20.string)
0144 A(22)=strtod(handles.input1_21.string)
0145 A(23)=strtod(handles.input1_22.string)
0146 A(24)=strtod(handles.input1_23.string)
0147 B(1)=strtod(handles.input2_0.string)
0148 B(2)=strtod(handles.input2_1.string)
0149 B(3)=strtod(handles.input2_2.string)
0150 B(4)=strtod(handles.input2_3.string)
0151 B(5)=strtod(handles.input2_4.string)
0152 B(6)=strtod(handles.input2_5.string)
0153 B(7)=strtod(handles.input2_6.string)
0154 B(8)=strtod(handles.input2_7.string)
0155 B(9)=strtod(handles.input2_8.string)
0156 B(10)=strtod(handles.input2_9.string)
0157 B(11)=strtod(handles.input2_10.string)
0158 B(12)=strtod(handles.input2_11.string)
0159 B(13)=strtod(handles.input2_12.string)
0160 B(14)=strtod(handles.input2_13.string)
0161 B(15)=strtod(handles.input2_14.string)
0162 B(16)=strtod(handles.input2_15.string)
0163 B(17)=strtod(handles.input2_16.string)
0164 B(18)=strtod(handles.input2_17.string)
0165 B(19)=strtod(handles.input2_18.string)
0166 B(20)=strtod(handles.input2_19.string)
0167 B(21)=strtod(handles.input2_20.string)
0168 B(22)=strtod(handles.input2_21.string)
0169 B(23)=strtod(handles.input2_22.string)
0170 B(24)=strtod(handles.input2_23.string)
0171 C(1)=strtod(handles.input3_0.string)
0172 C(2)=strtod(handles.input3_1.string)
0173 C(3)=strtod(handles.input3_2.string)
0174 C(4)=strtod(handles.input3_3.string)
0175 C(5)=strtod(handles.input3_4.string)
0176 C(6)=strtod(handles.input3_5.string)
0177 C(7)=strtod(handles.input3_6.string)
0178 C(8)=strtod(handles.input3_7.string)
0179 C(9)=strtod(handles.input3_8.string)
0180 C(10)=strtod(handles.input3_9.string)
0181 C(11)=strtod(handles.input3_10.string)
0182 C(12)=strtod(handles.input3_11.string)
0183 C(13)=strtod(handles.input3_12.string)
0184 C(14)=strtod(handles.input3_13.string)
0185 C(15)=strtod(handles.input3_14.string)
0186 C(16)=strtod(handles.input3_15.string)
0187 C(17)=strtod(handles.input3_16.string)
0188 C(18)=strtod(handles.input3_17.string)
0189 C(19)=strtod(handles.input3_18.string)
0190 C(20)=strtod(handles.input3_19.string)
0191 C(21)=strtod(handles.input3_20.string)
0192 C(22)=strtod(handles.input3_21.string)
0193 C(23)=strtod(handles.input3_22.string)
0194 C(24)=strtod(handles.input3_23.string)
0195 D(1)=strtod(handles.input4_0.string)
0196 D(2)=strtod(handles.input4_1.string)
0197 D(3)=strtod(handles.input4_2.string)
0198 D(4)=strtod(handles.input4_3.string)
0199 D(5)=strtod(handles.input4_4.string)
0200 D(6)=strtod(handles.input4_5.string)
0201 D(7)=strtod(handles.input4_6.string)

```

```

0202 D(8)=strtod(handles.input4_7.string)
0203 D(9)=strtod(handles.input4_8.string)
0204 D(10)=strtod(handles.input4_9.string)
0205 D(11)=strtod(handles.input4_10.string)
0206 D(12)=strtod(handles.input4_11.string)
0207 D(13)=strtod(handles.input4_12.string)
0208 D(14)=strtod(handles.input4_13.string)
0209 D(15)=strtod(handles.input4_14.string)
0210 D(16)=strtod(handles.input4_15.string)
0211 D(17)=strtod(handles.input4_16.string)
0212 D(18)=strtod(handles.input4_17.string)
0213 D(19)=strtod(handles.input4_18.string)
0214 D(20)=strtod(handles.input4_19.string)
0215 D(21)=strtod(handles.input4_20.string)
0216 D(22)=strtod(handles.input4_21.string)
0217 D(23)=strtod(handles.input4_22.string)
0218 D(24)=strtod(handles.input4_23.string)
0219 A=A'
0220 B=B'
0221 C=C'
0222 D=D'
0223 archivo=handles.output.string
0224 exec('EsBisiesto.sce')
0225 exec('Dia1.sce')
0226 exec('VectorDiaSemana.sce')
0227 exec('VectorMesYDiaMes.sce')
0228 exec('CrearConsumo.sce')
0229 year=strtod(handles.ano.string)
0230 [bisiesto,ndias]=EsBisiesto(year)
0231 dia1=Dia1(year)
0232 diasemana=VectorDiaSemana(dia1,ndias)
0233 [mes,diames]=VectorMesYDiaMes(bisiesto,ndias)
0234 CrearConsumo(diasemana,mes,diames,ndias,A,B,C,D,archivo)
0235 disp('Archivo generado')
0236 endfunction

```

GUIMaestro.sce

```

0001 // This GUI file is generated by guibuilder version 2.2
0002 //////////
0003
f=figure('figure_position',[647,206],'figure_size',[656,606],'auto_resize','on','background',[33],'figure_name','Graphic window number %d');
0004 //////////
0005 delmenu(f.figure_id,gettext('File'))
0006 delmenu(f.figure_id,gettext('?'))
0007 delmenu(f.figure_id,gettext('Tools'))
0008 toolbar(f.figure_id,'off')
0009 handles.dummy = 0;
0010
handles.Titulo=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[24],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.15375,0.8373016,0.7,0.1150794],'Relief','flat','SliderStep',[0.01,0.1],'String','Optimización de la potencia contratada','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Titulo','Callback','')
0011
handles.Textoano=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[1],'Max',[1],'Min',[0],'Position',[0.2775,0.6974206,0.05375,0.0515079],'Relief','flat','SliderStep',[0.01,0.1],'String','Año:','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Textoano','Callback','')
0012

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```

handles.Ano=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.334375,0.7003968,0.0765625,0.0515079],'Relief','sunken','SliderStep',[0.01,0.1],'String','','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Año','Callback','')
0013
handles.Textoconsumo=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.1625,0.6167328,0.16875,0.0515079],'Relief','flat','SliderStep',[0.01,0.1],'String','ArchivoConsumo:','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Textoconsumo','Callback','')
0014
handles.Consumo=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.334375,0.6203704,0.159375,0.0515079],'Relief','sunken','SliderStep',[0.01,0.1],'String','consumo.txt','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Consumo','Callback','')
0015
handles.Textopeajes=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.191875,0.536045,0.139375,0.0515079],'Relief','flat','SliderStep',[0.01,0.1],'String','ArchivoPeajes:','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Textopeajes','Callback','')
0016
handles.Peajes=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.334375,0.5403439,0.134375,0.0515079],'Relief','sunken','SliderStep',[0.01,0.1],'String','peajes.txt','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Peajes','Callback','')
0017
handles.Textotarifa=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.255625,0.4553572,0.075625,0.0515079],'Relief','flat','SliderStep',[0.01,0.1],'String','Tarifa6:','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Textotarifa','Callback','')
0018
handles.Tarifa=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.334375,0.4603175,0.0328125,0.0515079],'Relief','sunken','SliderStep',[0.01,0.1],'String','x','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Tarifa','Callback','')
0019
handles.Begin=icontrol(f,'unit','normalized','BackgroundColor',[0.6,0.6,0.6],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[20],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.3878125,0.1825397,0.24375,0.0972222],'Relief','raised','SliderStep',[0.01,0.1],'String','Calcular','Style','pushbutton','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Begin','Callback','Maestro')
0020
handles.Textopincipales=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.0865625,0.385873,0.2446875,0.0496032],'Relief','flat','SliderStep',[0.01,0.1],'String','Potencia contratada inicial:','Style','text','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Textopincipales','Callback','')
0021
handles.Pi1=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.3421875,0.3849206,0.0578125,0.0515079],'Relief','sunken','SliderStep',[0.01,0.1],'String','0','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Pi1','Callback','')
0022
handles.Pi2=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontName','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlignment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.4068125,0.3849206,0.0578125,0.0515079],'Relief','su

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nken','SliderStep',[0.01,0.1],'String','0','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Pi2','C
allback','")
0023
handles.Pi3=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontN
ame','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlign
ment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.4714375,0.3849206,0.0578125,0.0515079],'Relief','su
nken','SliderStep',[0.01,0.1],'String','0','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Pi3','C
allback','")
0024
handles.Pi4=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontN
ame','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlign
ment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.5360625,0.3849206,0.0578125,0.0515079],'Relief','su
nken','SliderStep',[0.01,0.1],'String','0','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Pi4','C
allback','")
0025
handles.Pi5=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontN
ame','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlign
ment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.6006875,0.3849206,0.0578125,0.0515079],'Relief','su
nken','SliderStep',[0.01,0.1],'String','0','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Pi5','C
allback','")
0026
handles.Pi6=icontrol(f,'unit','normalized','BackgroundColor',[0.8,0.8,0.8],'Enable','on','FontAngle','normal','FontN
ame','helvetica','FontSize',[12],'FontUnits','points','FontWeight','normal','ForegroundColor',[0,0,0],'HorizontalAlign
ment','center','ListboxTop',[0],'Max',[1],'Min',[0],'Position',[0.6653125,0.3849206,0.0578125,0.0515079],'Relief','su
nken','SliderStep',[0.01,0.1],'String','0','Style','edit','Value',[0],'VerticalAlignment','middle','Visible','on','Tag','Pi6','C
allback','")
0027
0028 //////////
0029 // Callbacks are defined as below. Please do not delete the comments as it will be used in coming version
0030 //////////
0031
0032 function
0033 //Write your callback for Begin here
0034 exec('EsBisiesto.sce')
0035 exec('Dia1.sce')
0036 exec('VectorDiaSemana.sce')
0037 exec('VectorMesYDiaMes.sce')
0038 exec('LeerConsumosArchivo.sce')
0039 exec('AsignacionPeriodos.sce')
0040 exec('LeerPeajesArchivo.sce')
0041 exec('PrecioPeriodo.sce')
0042 exec('MatrizPrecio.sce')
0043 exec('PotenciasOptimas.sce')
0044 exec('Coste.sce')
0045 disp('módulos cargados')
0046 year=strtod(handles.Ano.string)
0047 [bisiesto,ndias]=EsBisiesto(year)
0048 dia1=Dia1(year)
0049 diasemana=VectorDiaSemana(dia1,ndias)
0050 [mes,diames]=VectorMesYDiaMes(bisiesto,ndias)
0051 archivo1=handles.Consumo.string
0052 [consumo]=LeerConsumosArchivo(archivo1,ndias)
0053 [periodos]=AsignacionPeriodos(diasemana,mes,diames,ndias)
0054 archivopeajes=handles.Peajes.string
0055 [peajes]=LeerPeajesArchivo(archivopeajes)
0056 tarifa=strtod(handles.Tarifa.string)
0057 tp=peajes(tarifa,1:6)
0058 disp('datos de entrada cargados')
0059 potencia=[0:1:max(consumo)];
0060 disp('potencia lista')
0061 [precio]=MatrizPrecio(potencia,consumo,tp,ndias,periodos)
0062 disp('precios listos')
0063 [poptima]=PotenciasOptimas(precio,potencia)

```

```

0064 pinicial(1)=strtod(handles.Pi1.string)
0065 pinicial(2)=strtod(handles.Pi2.string)
0066 pinicial(3)=strtod(handles.Pi3.string)
0067 pinicial(4)=strtod(handles.Pi4.string)
0068 pinicial(5)=strtod(handles.Pi5.string)
0069 pinicial(6)=strtod(handles.Pi6.string)
0070 pinicial=pinicial'
0071 [costeini]=Coste(precio,pinicial)
0072 [costeopt]=Coste(precio,poptima)
0073 ahorro=1-costeopt/costeini;
0074 disp('Ahorro')
0075 disp(ahorro)
0076 endfunction

```

LeerArchivo.sce

```

0001 texto=mgetl('test.txt',2);
0002 numeros=[];
0003 for i=1:5
0004     [signumeros,texto]=strtod(texto);
0005     numeros=[numeros,signumeros]
0006 end

```

LeerConsumosArchivo.sce

```

0001 function [consumo]=LeerConsumosArchivo(archivo1, ndias)
0002 texto=mgetl(archivo1,ndias);
0003 consumo=[];
0004 for i=1:24
0005     [sigconsumo,texto]=strtod(texto);
0006     consumo=[consumo,sigconsumo];
0007 end
0008 endfunction

```

LeerPeajesArchivo.sce

```

0001 function [peajes]=LeerPeajesArchivo(archivopeajes)
0002 texto=mgetl(archivopeajes,6);
0003 peajes=[];
0004 for i=1:5
0005     [sigpeajes,texto]=strtod(texto);
0006     peajes=[peajes,sigpeajes];
0007 end
0008 peajes=peajes';
0009 endfunction

```

MatrizPrecio.sce

```

0001 function [precio]=MatrizPrecio(potencia, consumo, tp, ndias, periodos)
0002 k=[1 0.5 0.37 0.37 0.37 0.17]
0003 precio=[];
0004 for i=1:6
0005     filaprecio=[];
0006     for j=1:length(potencia)
0007         sigfilaprecio=PrecioPeriodo(consumo,potencia(j),i,tp,ndias,k,periodos);
0008         filaprecio=[filaprecio sigfilaprecio];
0009     end
0010     precio=[precio;filaprecio]
0011 end

```

```

0012 f2=figure(2)
0013 plot(potencia,precio')
0014 endfunction

```

PotenciasOptimas.sce

```

0001 function [poptima]=PotenciasOptimas(precio, potencia)
0002     minimo=[];
0003     for i=1:6
0004         [m,p]=min(precio(i,:));
0005         minimo=[minimo potencia(p)]
0006     end
0007     for k=1:6
0008         grupos=[];
0009         for i=1:5
0010             if minimo(i)<minimo(i+1) then
0011                 grupos=[grupos 1]
0012             else
0013                 grupos=[grupos 0]
0014             end
0015         end
0016         grupos=[grupos 1]
0017         n=0
0018         sumaprecio=[];
0019         for i=6:-1:1
0020             if grupos(i)==1 then
0021                 n=n+1;
0022                 sumaprecio(n,:)=precio(i,:);
0023             else
0024                 sumaprecio(n,:)=sumaprecio(n)+precio(i,:);
0025             end
0026         end
0027         for i=1:n
0028             [m,p]=min(sumaprecio(i,:));
0029             mingrupo(i)=potencia(p);
0030         end
0031         j=0
0032         for i=6:-1:1
0033             if grupos(i)==1 then
0034                 j=j+1;
0035             end
0036             minimo(i)=mingrupo(j);
0037         end
0038     end
0039     poptima=minimo
0040     disp('Potencias óptimas')
0041     disp(poptima)
0042 endfunction

```

PrecioPeriodo.sce

```

0001 function [precio]=PrecioPeriodo(consumo, pcontratada, periodo, tp, ndias, k, periodos)
0002     fijo=tp(periodo)*pcontratada
0003     sumacuadrados=0;
0004     for i=1:ndias
0005         for j=1:24
0006             if (consumo(i,j)>pcontratada & periodos(i,j)==periodo) then
0007                 sigsumacuadrados=4*(consumo(i,j)-pcontratada)^2;
0008             else sigsumacuadrados=0;
0009             end
0010             sumacuadrados=sumacuadrados+sigsumacuadrados;

```

```

0011     end
0012 end
0013 exceso=k(periodo)*1.4064*sqrt(sumacuadrados);
0014 precio=fijo+exceso;
0015 endfunction

```

VectorDiaSemana.sce

```

0001 function [diasemana]=VectorDiaSemana(dia1, ndias)
0002 dia=dia1
0003 diasemana=[]
0004 for i=1:ndias
0005     diasemana=[diasemana,dia]
0006     if dia==6 then dia=0
0007         else dia=dia+1
0008     end
0009 end
0010 endfunction

```

VectorMesYDiaMes.sce

```

0001 function [mes, diames]=VectorMesYDiaMes(bisiesto, ndias)
0002 m1=1; m2=32; m3=60+bisiesto; m4=91+bisiesto;
0003 m5=121+bisiesto; m6=152+bisiesto; m7=182+bisiesto; m8=213+bisiesto;
0004 m9=244+bisiesto; m10=274+bisiesto; m11=305+bisiesto; m12=335+bisiesto;
0005
0006 mes=[]
0007 for i=1:ndias
0008     if i>=m12 then mesdia=12
0009         elseif i>=m11 then mesdia=11
0010         elseif i>=m10 then mesdia=10
0011         elseif i>=m9 then mesdia=9
0012         elseif i>=m8 then mesdia=8
0013         elseif i>=m7 then mesdia=7
0014         elseif i>=m6 then mesdia=6
0015         elseif i>=m5 then mesdia=5
0016         elseif i>=m4 then mesdia=4
0017         elseif i>=m3 then mesdia=3
0018         elseif i>=m2 then mesdia=2
0019         elseif i>=m1 then mesdia=1
0020     end
0021     mes=[mes,mesdia]
0022 end
0023 diames=[];
0024 for i=m1:(m2-1)
0025     diames(i)=i-m1+1;
0026 end
0027 for i=m2:(m3-1)
0028     diames(i)=i-m2+1;
0029 end
0030 for i=m3:(m4-1)
0031     diames(i)=i-m3+1;
0032 end
0033 for i=m4:(m5-1)
0034     diames(i)=i-m4+1;
0035 end
0036 for i=m5:(m6-1)
0037     diames(i)=i-m5+1;
0038 end
0039 for i=m6:(m7-1)
0040     diames(i)=i-m6+1;

```

```
0041 end
0042 for i=m7:(m8-1)
0043     diames(i)=i-m7+1;
0044 end
0045 for i=m8:(m9-1)
0046     diames(i)=i-m8+1;
0047 end
0048 for i=m9:(m10-1)
0049     diames(i)=i-m9+1;
0050 end
0051 for i=m10:(m11-1)
0052     diames(i)=i-m10+1;
0053 end
0054 for i=m11:(m12-1)
0055     diames(i)=i-m11+1;
0056 end
0057 for i=m12:(m12+30)
0058     diames(i)=i-m12+1;
0059 end
0060 endfunction
```