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1 ; Name      : mnemonic.asm
2 ;
3 ; Build     : aclocal && autoconf && automake --add-missing --foreign
4 ;           mkdir build
5 ;           cd build
6 ;           ../configure
7 ;           make
8 ;
9 ; Description : mnemonic demo. once the window is on-screen, press ALT-B
10 ;           the program must run in a terminal otherwise it seems dead
11 ;
12 ; Source    : http://zetcode.com/gui/gtk2/firstprograms/
13
14 bits 64
15
16 [list -]
17     extern  gtk_init
18     extern  gtk_window_new
19     extern  gtk_window_set_title
20     extern  gtk_window_set_default_size
21     extern  gtk_container_set_border_width
22     extern  gtk_button_new_with_mnemonic
23     extern  gtk_widget_set_tooltip_text
24     extern  gtk_alignment_new
25     extern  gtk_container_add
26     extern  gtk_widget_show_all
27     extern  gtk_main_quit
28     extern  g_signal_connect_data
29     extern  gtk_main
30     extern  exit
31     extern  g_printf
32 [list +]
33
34 section .rodata
35     title:      db  "Mnemonic - press ALT-B",0
36     szDestroy:  db  "destroy",0
37     szClicked:  db  "clicked",0
38     szCaption:  db  "_Button",0
39     szMessage:  db  "Button clicked",10,0
40
41 section .data
42     window:     dq  0
43     button:      dq  0
44     halign:      dq  0
45
46 section .text
47
48 global _start
49 _start:
50     ;init gtk
51     xor     rsi,rsi                ;argv
52     xor     rdi,rdi                ;argc
53     call    gtk_init
54     ;the main window
55     xor     rdi,rdi                ;GTK_WINDOW_TOPLEVEL = 0 in RDI
56     call    gtk_window_new
57     mov     qword[window],rax
58     ;set title
59     mov     rdi,qword[window]
60     mov     rsi,window.title
61     call    gtk_window_set_title
62     ;set size
63     mov     rdi,qword[window]
64     mov     rsi,300                ;width
65     mov     rdx,200                ;height
66     call    gtk_window_set_default_size
67     ;set border width
68     mov     rdi,qword[window]
69     mov     rsi,15                 ;borderwidth
70     call    gtk_container_set_border_width
71     ;create a button
72     mov     rdi,szCaption
73     call    gtk_button_new_with_mnemonic

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74     mov     qword[button],rax
75     ;horizontal alignment
76     xor     rdi,rdi
77     xor     rsi,rsi
78     xor     rdx,rdx
79     call    gtk_alignment_new
80     mov     qword[halign],rax
81     ;add the button to the halign container
82     mov     rdi,qword[halign]
83     mov     rsi,qword[button]
84     call    gtk_container_add
85     ;add the halign container to the window
86     mov     rdi,qword[window]
87     mov     rsi,qword[halign]
88     call    gtk_container_add
89     ;show window
90     mov     rdi,qword[window]
91     call    gtk_widget_show_all
92     ;connect print_msg to the button clicked signal
93     xor     r9d,r9d                ;combination of GConnectFlags
94     xor     r8d,r8d                ;a GClosureNotify for data
95     mov     rcx,qword[window]      ;pointer to window instance in RCX
96     mov     rdx,print_msg          ;pointer to the handler
97     mov     rsi,szClicked          ;pointer to the signal
98     mov     rdi,qword[button]      ;pointer to window instance in RDI
99     call    g_signal_connect_data ;the value in RAX is the handler, but we don't
    ;store it now
100    ;connect destroy signal to the window
101    xor     r9d,r9d                ;combination of GConnectFlags
102    xor     r8d,r8d                ;a GClosureNotify for data
103    mov     rcx,qword[window]      ;pointer to window instance in RCX
104    mov     rdx,gtk_main_quit       ;pointer to the handler
105    mov     rsi,szDestroy          ;pointer to the signal
106    mov     rdi,qword[window]      ;pointer to window instance in RDI
107    call    g_signal_connect_data ;the value in RAX is the handler, but we don't
    ;store it now
108    ;go into application main loop
109    call    gtk_main
110    ;exit program
111    xor     rdi,rdi
112    call    exit
113    ;event handler for signal button.clicked
114 print_msg:
115     mov     rdi,message
116     xor     rax,rax
117     call    g_printf
118     ret
119

```