```asm
 1 ; Name        : icon.asm
 2 ;
 3 ; Build       : aclocal && autoconf && automake --add-missing --foreign
 4 ;                 mkdir build
 5 ;                 cd build
 6 ;                 ../configure
 7 ;                 make
 8 ;
 9 ; Description : a simple window with application icon
10 ;
11 ; Remark      : when copying the application to another location you need to copy the image
   file 'logo.png' with it in
12 ;                 the same directory.
13 ;
14 ; Source      : http://zetcode.com/gui/gtk2/firstprograms/
15
16 bits 64
17
18 [list -]
19     extern    exit
20     extern    printf
21     extern    gtk_init
22     extern    gtk_window_new
23     extern    gtk_window_set_title
24     extern    gtk_window_set_default_size
25     extern    gtk_window_set_position
26     extern    gtk_window_set_icon
27     extern    gtk_widget_show
28     extern    gtk_main
29     extern    gtk_main_quit
30     extern    g_signal_connect_data
31     extern    gdk_pixbuf_new_from_file
32     %define   GTK_WINDOW_TOPLEVEL   0
33     %define   GTK_WIN_POS_CENTER    1
34 [list +]
35
36 section .rodata
37     szTitle:        db    "icon",0
38     szDestroy:      db    "destroy",0
39     szFile:         db    "icon.png",0                        ;must reside in the same directory
40     szErrPixbuf:    db    "ERROR loading %s",10,0
41
42 section .data
43     window:         dq    0
44     icon:           dq    0
45     pixbuffer:      dq    0
46     error:          dq    0
47
48 section .text
49     global _start
50
51 _start:
52     ;init gtk
53     xor       rsi,rsi                               ;argv
54     xor       rdi,rdi                               ;argc
55     call      gtk_init
56     ;create a new window
57     mov       rdi,GTK_WINDOW_TOPLEVEL
58     call      gtk_window_new
59     mov       qword [window],rax
60     ;set the title
61     mov       rdi,qword [window]
62     mov       rsi,szTitle
63     call      gtk_window_set_title
64     ;set the size
65     mov       rdi,qword [window]
66     mov       rsi,230
67     mov       rdx,150
68     call      gtk_window_set_default_size
69     ;set the position
70     mov       rdi,qword [window]
71     mov       rsi,GTK_WIN_POS_CENTER
72     call      gtk_window_set_position
```

```asm
73          ;load imagefile in a pixbuffer
74          mov     rdi,szFile
75          mov     rsi,error
76          call    gdk_pixbuf_new_from_file
77          mov     qword [pixbuffer],rax
78          and     rax,rax
79          jnz     .no_icon_file_error
80          ;print error to terminal if there was an error
81          mov     rsi,szFile
82          mov     rdi,szErrPixbuf
83          xor     rax,rax
84          call    printf
85          jmp     .skiploadicon
86          ;if no erro then the image is in the pixel buffer
87          ;and we can set the icon
88  .no_icon_file_error:
89          mov     rdi,qword [window]
90          mov     rsi,qword [pixbuffer]
91          call    gtk_window_set_icon
92  .skiploadicon:
93          ;connect signal destroy with gtk_main_quit event handler
94          xor     r9d,r9d                 ; combination of GConnectFlags
95          xor     r8d,r8d                 ; a GClosureNotify for data
96          xor     rcx,rcx                 ; pointer to the data to pass
97          mov     rdx,gtk_main_quit       ; pointer to the handler
98          mov     rsi,szDestroy           ; pointer to the signal
99          mov     rdi,qword[window]       ; pointer to the widget instance
100         call    g_signal_connect_data   ; the value in RAX is the handler, but we don't store it
            now
101         ;show the window
102         mov     rdi,qword [window]
103         call    gtk_widget_show
104         ;enter process loop
105         call    gtk_main
106         ;exi program
107         xor     rdi,rdi
108         call    exit
109
```