Periféricos y Dispositivos de Interfaz Humana

UNIVERSIDAD DE GRANADA

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Seminario 1. Programación de dispositivos a bajo nivel

GABRIEL VICO ARBOLEDAS
RAÚL RODRÍGUEZ RODRÍGUEZ

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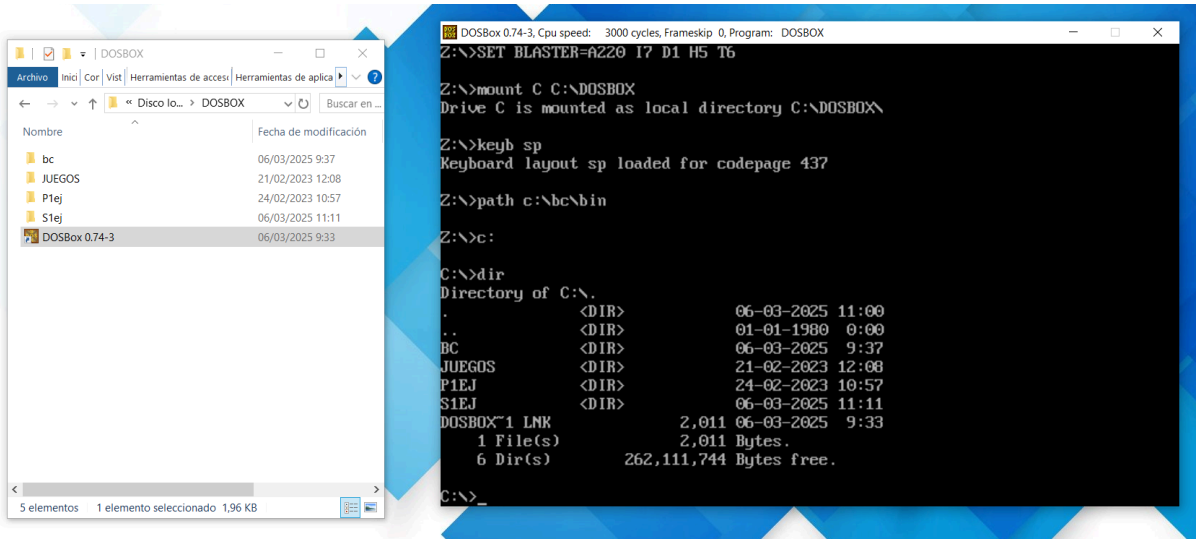
1. Instalar el software DOSBox y ejecutar aplicaciones de MS-DOS



2. Configurar el inicio de DOSBox

```
[autoexec]
# Lines in this section will be run at startup.
# You can put your MOUNT lines here.

mount C C:\DOSBOX
keyb sp
path c:\bc\bin

c:
```

```
[sdl]
#       fullscreen: Start dosbox directly in fullscreen. (Press ALT-Enter to go back)
#       fulldouble: Use double buffering in fullscreen. It can reduce screen flickering, but it can also result in a slow DOSBox.
#   fullresolution: What resolution to use for fullscreen: original, desktop or fixed size (e.g. 1024x768).
#                     Using your monitor's native resolution (desktop) with aspect=true might give the best results.
#                     If you end up with small window on a large screen, try an output different from surface.
#                     On Windows 10 with display scaling (Scale and layout) set to a value above 100%, it is recommended
#                     to use a lower full/windowresolution, in order to avoid window size problems.
# windowresolution: Scale the window to this size IF the output device supports hardware scaling.
#                     (output=surface does not!)
#           output: What video system to use for output.
#                   Possible values: surface, overlay, opengl, openglnb, ddraw.
#         autolock: Mouse will automatically lock, if you click on the screen. (Press CTRL-F10 to unlock)
#      sensitivity: Mouse sensitivity.
#      waitonerror: Wait before closing the console if dosbox has an error.
#         priority: Priority levels for dosbox. Second entry behind the comma is for when dosbox is not focused/minimized.
#                     pause is only valid for the second entry.
#                   Possible values: lowest, lower, normal, higher, highest, pause.
#       mapperfile: File used to load/save the key/event mappings from. Resetmapper only works with the defaul value.
#     usescancodes: Avoid usage of symkeys, might not work on all operating systems.

fullscreen=false
fulldouble=false
fullresolution=original
windowresolution=1024x768
output=opengl
autolock=true
sensitivity=100
waitonerror=true
priority=higher,normal
mapperfile=mapper-0.74-3.map
usescancodes=true
```

3. Crear el ejemplo “Hola mundo”

```
C:\S1EJ>type hola.asm
pila segment stack 'stack'
        dw 100h dup (?)
pila ends
datos segment 'data'
        msg db 'hola$'
datos ends
codigo segment 'code'
        assume cs:codigo, ds:datos, ss:pila
        main PROC
                mov ax,datos
                mov ds,ax

                mov dx,OFFSET msg
                mov ah,9
                int 21h

                mov ax,4C00h
                int 21h
        main ENDP
codigo ends

END main

C:\S1EJ>_
```

```
C:\S1EJ>c.bat hola
Turbo Assembler  Version 3.1  Copyright (c) 1988, 1992 Borland International

Assembling file:   hola.asm
Error messages:    None
Warning messages:  None
Passes:            1
Remaining memory:  472k

Turbo Link  Version 5.1 Copyright (c) 1992 Borland International
C:\S1EJ>hola.exe
hola
C:\S1EJ>
```