Lista de interrupciones comúnmente usadas en procesadores Intel 8086

(Compatible también con cualquier IBM PC, x86 y AMD).

INT 10h / **AH = 0** - set video mode.

input:
AL = desired video mode.

these video modes are supported:

00h - text mode. 40x25. 16 colors. 8 pages.

03h - text mode. 80x25. 16 colors. 8 pages.

13h - graphical mode. 40x25. 256 colors. 320x200 pixels. 1 page.

example:

```
      mov al, 13h
      mov ah, 0
      int 10h
```

INT 10h / **AH = 01h** - set text-mode cursor shape.

input:
CH = cursor start line (bits 0-4) and options (bits 5-7).
CL = bottom cursor line (bits 0-4).

when bit 5 of CH is set to **0**, the cursor is visible. when bit 5 is **1**, the cursor is not visible.

```
; hide blinking text cursor:
      mov ch, 32
      mov ah, 1
      int 10h

; show standard blinking text cursor:
      mov ch, 6
      mov cl, 7
      mov ah, 1
      int 10h

; show box-shaped blinking text cursor:
      mov ch, 0
      mov cl, 7
      mov ah, 1
      int 10h

;           note: some bioses required CL to be >=7,
;           otherwise wrong cursor shapes are displayed.
```

INT 10h / **AH = 2** - set cursor position.

input:
DH = row.
DL = column.
BH = page number (0..7).

example:

```
mov dh, 10
mov dl, 20
mov bh, 0
mov ah, 2
int 10h
```

INT 10h / **AH = 03h** - get cursor position and size.

input:
BH = page number.
return:
DH = row.
DL = column.
CH = cursor start line.
CL = cursor bottom line.

INT 10h / **AH = 05h** - select active video page.

input:
AL = new page number (0..7).
the activated page is displayed.

INT 10h / **AH = 06h** - scroll up window.
INT 10h / **AH = 07h** - scroll down window.

input:
AL = number of lines by which to scroll (00h = clear entire window).
BH = attribute used to write blank lines at bottom of window.
CH, CL = row, column of window's upper left corner.
DH, DL = row, column of window's lower right corner.

INT 10h / **AH = 08h** - read character and attribute at cursor position.

input:
BH = page number.
return:
AH = attribute.
AL = character.

INT 10h / **AH = 09h** - write character and attribute at cursor position.

input:
AL = character to display.
BH = page number.
BL = attribute.
CX = number of times to write character.

INT 10h / **AH = 0Ah** - write character only at cursor position.

input:
AL = character to display.
BH = page number.
CX = number of times to write character.

INT 10h / **AH = 0Ch** - change color for a single pixel.

input:
AL = pixel color
CX = column.
DX = row.

example:

```
mov al, 13h
mov ah, 0
int 10h     ; set graphics video mode.
mov al, 1100b
mov cx, 10
mov dx, 20
mov ah, 0ch
int 10h     ; set pixel.
```

INT 10h / **AH = 0Dh** - get color of a single pixel.

input:
CX = column.
DX = row.
output:
AL = pixel color

INT 10h / **AH = 0Eh** - teletype output.

input:
AL = character to write.

this functions displays a character on the screen, advancing the cursor and scrolling the screen as necessary. the printing is always done to current active page.

example:

```
mov al, 'a'
mov ah, 0eh
int 10h

; note: on specific systems this
; function may not be supported in graphics mode.
```

INT 10h / **AH = 13h** - write string.

input:
AL = write mode:
  bit 0: update cursor after writing;
  bit 1: string contains attributes.
BH = page number.
BL = attribute if string contains only characters (bit 1 of AL is zero).
CX = number of characters in string (attributes are not counted).
DL,DH = column, row at which to start writing.
ES:BP points to string to be printed.

```
@PALABRA: DB 'HOLI' ;Holi se guardara en CS:@PALABRA... limitaciones de turbopascal

mov ax,cs
mov es,ax ;asignar ES = CS

mov bp, OFFSET @PALABRA ;asignar BP = direccion de memoria de palabra

mov al, 1 ;config
mov bh, 0 ;pagina
mov bl, 0F ;color (vea recuadro color)
mov cx, 4 ; tamaño de string

mov dl, 10 ;coordenadas donde imprimir
mov dh, 7

mov ah, 13h
int 10h
```

INT 10h / **AX = 1003h** - toggle intensity/blinking.

input:
BL = write mode:
  0: enable intensive colors.
  1: enable blinking (not supported by the emulator and windows command prompt).
BH = 0 (to avoid problems on some adapters).
example:

```
mov ax, 1003h
mov bx, 0
int 10h
```

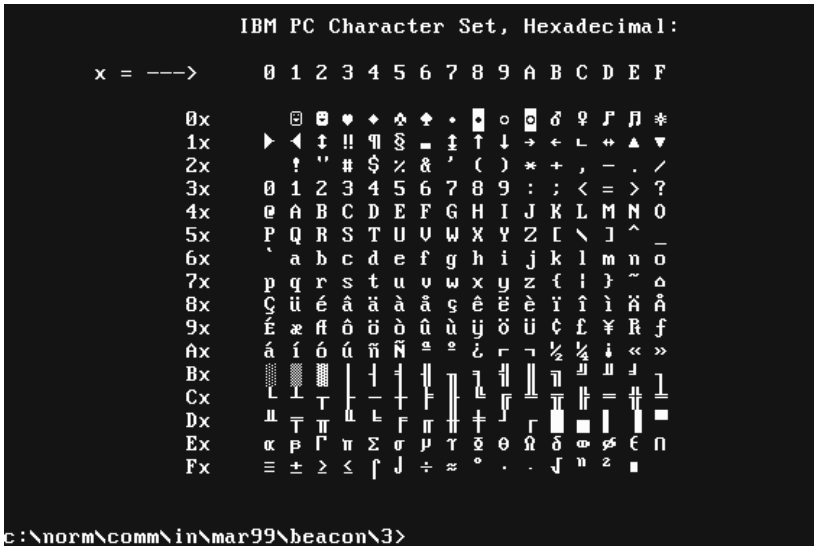
---

bit color table:
Atributo color es un valor de 8 bits, 4 bits para cada atributo. Primer digito es color de letra, segundo digito es color de fondo.
Ejemplo **4E** será color rojo con fondo amarillo.

HEX	BIN	COLOR
0	0000	black
1	0001	blue
2	0010	green
3	0011	cyan
4	0100	red
5	0101	magenta
6	0110	brown
7	0111	light gray
8	1000	dark gray
9	1001	light blue
A	1010	light green
B	1011	light cyan
C	1100	light red
D	1101	light magenta
E	1110	yellow
F	1111	white

note:

```
; use this code for compatibility with dos/cmd prompt full screen mode:
mov     ax, 1003h
mov     bx, 0   ; disable blinking.
int     10h
```



INT 11h - get BIOS equipment list.

return:
AX = BIOS equipment list word, actually this call returns the contents of the word at 0040h:0010h.

```
Bit fields for BIOS-detected installed hardware:
bit(s)      Description
 15-14  Number of parallel devices.
 13     Reserved.
 12     Game port installed.
 11-9   Number of serial devices.
 8      Reserved.
 7-6    Number of floppy disk drives (minus 1):
          00 single floppy disk;
          01 two floppy disks;
          10 three floppy disks;
          11 four floppy disks.
 5-4    Initial video mode:
          00 EGA,VGA,PGA, or other with on-board video BIOS;
          01 40x25 CGA color.
          10 80x25 CGA color (emulator default).
          11 80x25 mono text.
 3      Reserved.
 2      PS/2 mouse is installed.
 1      Math coprocessor installed.
 0      Set when booted from floppy.
```

INT 12h - get memory size.

return:
AX = kilobytes of contiguous memory starting at absolute address 00000h, this call returns the contents of the word at 0040h:0013h.

Floppy drives are emulated using *FLOPPY_0(..3)* **files.**

INT 13h / **AH = 00h** - reset disk system.

INT 13h / **AH = 02h** - read disk sectors into memory.
INT 13h / **AH = 03h** - write disk sectors.

input:
AL = number of sectors to read/write (must be nonzero)
CH = cylinder number (0..79).
CL = sector number (1..18).
DH = head number (0..1).
DL = drive number (0..3).
ES:BX points to data buffer.

return:
CF set on error.
CF clear if successful.
AH = status (0 - if successful).
AL = number of sectors transferred.

Note: each sector has **512** bytes.

NOTA DEL AYUDANTE: Puedes emular disquetes tocando la configuración del DOSBox en el archivo de configuración.

INT 15h / **AH = 86h** - BIOS wait function.
input:
CX:DX = interval in microseconds

return:
CF clear if successful (wait interval elapsed),
CF set on error or when wait function is already in progress.

Note:
the resolution of the wait period is 977 microseconds on many systems (1 million microseconds - 1 second).

NOTA DEL AYUDANTE: Solo funciona nativamente (DOS) o en DOSBox. En Windows puro NO funciona.

INT 16h / **AH = 00h** - get keystroke from keyboard (no echo).

return:
AH = BIOS scan code.
AL = ASCII character.
(if a keystroke is present, it is removed from the keyboard buffer).

INT 16h / **AH = 01h** - check for keystroke in the keyboard buffer.

return:
ZF = 1 if keystroke is not available.
ZF = 0 if keystroke available.
AH = BIOS scan code.
AL = ASCII character.
(if a keystroke is present, it is not removed from the keyboard buffer).

INT 19h - system reboot.

Usually, the BIOS will try to read sector 1, head 0, track 0 from drive **A:** to 0000h:7C00h.

NOTA DEL AYUDANTE: Esto hace cerrar DOSBox.

INT 1Ah / **AH = 00h** - get system time.

return:
CX:DX = number of clock ticks since midnight.
AL = midnight counter, advanced each time midnight passes.

notes:
there are approximately **18.20648** clock ticks per second,
and **1800B0h** per 24 hours.

INT 20h - exit to operating system.