

Software Interrupt Instruction ‘*int*’

- A ‘*int*’ instruction is like a special kind of subroutine call.
 - Will discuss details later
 - ‘*int*’ stands for INTERRUPT – the ‘*int*’ instruction is called a ‘*software interrupt*’
- The format of an *int* instruction is :
***int* number**
where ‘number’ can be value 0-255

BR 6/00

1

DOS, BIOS INT Functions

- Both the BIOS (Basic Input and Output System) and DOS (Disk Operating Systems) uses software interrupts to provide Input/Output services to the assembly language programs
 - The BIOS is contained in ROM and is operating system independent (the same BIOS is used for WinNT, Linux, Win98, etc)
 - DOS is only available under WinNT/Win98/WinME and is only supported for compatibility reasons.

BR 6/00

2

DOS 21H Functions

- The ‘*int 21h*’ software interrupt provided by DOS provides a variety of different functions.
- The ‘*ah*’ register is used to select which function you want to use. Other registers may be used to pass parameters to the function
 - Chapter 5, Section 5.5.1 (Irvine), Appendix G (Irvine)
- Some useful functions:

BR 6/00

3

Some Useful INT 21H functions

- OUTPUT functions
 - AH = 2, output a character to screen, character in DL.
 - AH = 9, output a string to screen, address of string in DX.
- INPUT functions
 - AH = 1, wait for Character to be typed, return character in AL. Character is also echoed to screen
 - AH = 6, DL=0FFh, checks if character is available. If available, return in AL with Zero Flag = '0'. If no character is available, return with ZERO flag = '1'. Note that this function DOES NOT wait for a character to be typed.
 - AH = 0Ah – get an entire string from the user (we will look at this in more detail later).
- MISC
 - AH= 4C, AL = 00 (AX=4C00 h), Exit back to DOS.

BR 6/00

4
