Use of Software Interrupts

Extract From CHOICE.COM, one of the little used utility commands that came packaged with MSDOS back in the early eighties.

```
1D5F:2260 B80258          MOV    AX,5802
1D5F:2263 CD21            INT    21
1D5F:2265 06              PUSH   ES
1D5F:2266 8E0608D3        MOV    ES,[D308]
1D5F:226A 26              ES:
1D5F:226B A2BF08          MOV    [08BF],AL
1D5F:226E 07              POP    ES
1D5F:226F B80358          MOV    AX,5803
1D5F:2272 BB0100          MOV    BX,0001
1D5F:2275 CD21            INT    21
1D5F:2277 C3              RET

1D5F:2278 33DB            XOR    BX,BX
1D5F:227A 1E              PUSH   DS
1D5F:227B 8E1E08D3        MOV    DS,[D308]
1D5F:227F 8A1EBF08        MOV    BL,[08BF]
1D5F:2283 1F              POP    DS
1D5F:2284 B80358          MOV    AX,5803
1D5F:2287 CD21            INT    21
1D5F:2289 C3              RET

1D5F:228A 57              PUSH   DI
1D5F:228B 1E              PUSH   DS
1D5F:228C 06              PUSH   ES
1D5F:228D 06              PUSH   ES
1D5F:228E 1F              POP    DS
1D5F:228F FC              CLD
1D5F:2290 AC              LODSB
1D5F:2291 E8B800          CALL   234C
1D5F:2294 74FA            JZ     2290
1D5F:2296 3C2F            CMP    AL,2F
1D5F:2298 7404            JZ     229E
1D5F:229A 4E              DEC    SI
1D5F:229B F8              CLC
1D5F:229C EB2A            JMP    22C8
```

Note how often the INT 21 instruction appears in the first couple of subroutines. These are how assembly language programs communicate with the system routines that make up MSDOS. There would be a similar arrangement for Windows, or whatever operating system you are using.

An INT instruction is a software interrupt: effectively a jump to a subroutine, but not one written by the programmer – one that is supplied as part of MSDOS. Remember that an operating system is a set of standard routines which control the hardware.

There are many INT 21 system routines. The one that is required is indicated by the contents of the AX register (which comprises of the AH and AL registers).

What appears to be happening in the top subroutine?