

2 The Magic Number: 0xAA55

by Morgan Reece Phillips

```
1 [org 0x7c00]           ; make nasm aware of the boot sector offset
3 mov bp, 0x8000        ; move the base of the stack pointer beyond the boot sector offset
  mov sp, bp           ; move the top and bottom stack pointers to the same spot
5
7 mov bx, poem
  call print_str
  jmp $                ; loop forever
9
print_str:              ; define a print "function" for null terminated strings
11 mov al, [bx]         ; print that low bit, then that high bit
   cmp al, 0
13   je the_end
   mov ah, 0x0e        ; set up the scrolling teletype interrupt
15   int 0x10          ; call interrupt handler
   add bx, 0x1
17   jmp print_str
the_end:
19   ret

21 poem:
   db 0xA, 0xD, \
23   '/*****', \
   0xA, 0xD, \
25   '** The Magic Number: 0xAA55', \
   0xA, 0xD, \
27   '*****/', \
   0xA, 0xD, \
29   'A word gives life to bare metal', \
   0xA, 0xD, \
31   'Bytes inviting execution', \
   0xA, 0xD, \
33   'Guide to a sector to settle', \
   0xA, 0xD, \
35   'A word gives life, to bare metal', \
   0xA, 0xD, \
37   'The bootloader', 0x27, 's role is vital', \
   0xA, 0xD, \
39   'Denoted by its locution—', \
   0xA, 0xD, \
41   'A word gives life to bare metal', \
   0xA, 0xD, \
43   'Bytes inviting execution', \
   0xA, 0xD, \
45   '@linuxpoetry (linux-poetry.com)', \
47   0
53
55
57 times 510-($-$$) db 0 ; write zeros to the first 510 bytes
   dw 0xaa55           ; write the magic number
```

An MBR/ASM/PDF polyglot variant made by the usual suspects is available in this very polyglot PDF.