

```

; *****
;
; HELLO.ASM (Retro Unix 8086 v1 - sample binary file)
; -----
;
; RETRO UNIX 8086 (Retro Unix == Turkish Rational Unix)
; Operating System Project (v0.1) by ERDOGAN TAN (Beginning: 11/07/2012)
; Retro UNIX 8086 v1 - 'hello' file for '/bin/sh' test
;
; [ Last Modification: 18/11/2013 ]
;
; Derivation from UNIX Operating System (v1.0 for PDP-11)
; (Original) Source Code by Ken Thompson (Bell Laboratories, 1971-1972)
;
; *****
;
; HELLO.ASM, 18/11/2013
;
; *****

.8086

; UNIX v1 system calls
_rele equ 0
_exit equ 1
_fork equ 2
_read equ 3
_write equ 4
_open equ 5
_close equ 6
_wait equ 7
_creat equ 8
_link equ 9
_unlinkequ 10
_exec equ 11
_chdir equ 12
_time equ 13
_mkdir equ 14
_chmod equ 15
_chown equ 16
_break equ 17
_stat equ 18
_seek equ 19
_tell equ 20
_mount equ 21
_umountequ 22
_setuidequ 23
_getuidequ 24
_stime equ 25
_quit equ 26
_intr equ 27
_fstat equ 28
_emt equ 29
_mdate equ 30
_stty equ 31
_gtty equ 32
_ilginsequ 33

;;;

sys macro syscallnumber, arg1, arg2, arg3

    ; Retro UNIX 8086 v1 system call.
    ifnb <arg1>
        mov bx, arg1
    endif
    ifnb <arg2>
        mov cx, arg2
    endif
    ifnb <arg3>
        mov dx, arg3
    endif
    mov ax, syscallnumber
    int 20h
    endm

```

```
; Retro UNIX 8086 v1 system call format:
; sys syscall (ax) <arg1 (bx)>, <arg2 (cx)>, <arg3 (dx)>
```

```
UNIX    SEGMENT PUBLIC 'CODE'
        assume cs:UNIX,ds:UNIX,es:UNIX,ss:UNIX
```

```
START_CODE:
    sys    _write, 1, msg_Hello, msg_size
    sys    _exit
```

```
here:
    jmp    short here
```

```
; - - - - -
; message
; - - - - -
```

```
msg_Hello:    db 0Dh, 0Ah
               db 'Hello world !'
               ;db 0Dh, 0Ah
msg_size equ  $ - offset msg_Hello
               ;db 0
```

```
UNIX        ends
```

```
        end    START_CODE
```