Problemas 2 AC

1.12

a) MTTF sistema

$$\frac{1}{125.000} + \frac{1}{10^6} + \frac{1}{200.000} + \frac{4}{10^6} + \frac{1}{500.000} + \frac{8}{100.000} = \frac{1}{MTTF\ sist}$$

↳ MTTF sistema = $10 \cdot 10^3$ h

b) MTBF = MTTF + T. reemplazo = 10020 h

c) Disponibilidad = $\frac{MTTF}{MTBF}$ = 0'998

2.1

x & y = 0x66 & 0x99 → 0110 0110
1001 0011
0000 0010 → 0x02

~x = 1001 1001
~y = 0110 1100

x | y = 1111 0111 = 0xF7

~x | ~y = 1111 1101 = 0xFD

x & !y = 0000 0000 = 0x00

x && ~y = 0000 0001 = 0x01

x && y = 0000 0001 = 0x01

x || y = 0000 0001 = 0x01

!x || !y = 0000 0000 = 0x00

! Logical not = True if the operand is 0.

2.2

x		x << 4		x >> 3 (log)		x >> 3 (ar+t)	
hex	bin	hex	bin	hex	bin	hex	bin
0xF0	1111 0000	0x00	00000000	0x1E	0001 1110	0xFE	1111 1110
0x0F	0000 1111	0xF0	1111 0000	0x01	0000 0001	0x01	0000 0001
0xCC	1100 1100	0xC0	1100 0000	0x19	0001 1001	0xF9	1111 1001
0x55	0101 0101	0x50	0101 0000	0x0A	0000 1010	0x0A	0000 1010
0x80	1000 0000	0x00	0000 0000	0x10	0001 0000	0xF0	1111 0000
0x02	0000 0010	0x20	0010 0000	0x00	0000 0000	0x00	0000 0000

2.5

```
        movl    $0, %eax        # clean eax
        movl    $A, %ebx
        movl    $tabla, %ecx
for:    cmpl    $256, %ebx      # comparación, si true fifor
        jge     fifor
        movsbl  (%ebx, %eax), %edx      A[i]
        movb    (%ecx, %edx), %dl       tabla[A[i]] -> dl
        movb    %dl, (%ebx, %eax)       A[i] = tabla[A[i]]
        incl    %ebx                    # i++
        jmp     for

fifor:
```

2.6

i = 8(%ebp)
x = 12(%ebp)

~~sorpresa~~

```
sorpresa: push  %ebp
        movl    %esp, %ebp
        movl    8(%ebp), %ebx       # i = ebx
        movl    12(%ebp), %ecx
        cmpl    $-10, %ebx          # compare i > -10
        jle     else

        cmpl    $10, %ebx           # compare i < 10
        jge     else                # greater equal
        movl    %ebx, (%ecx)
        jmp     fi

else:   leal    8(%ebp), %ebx
        movl    %ebx, 12(%ebp)

fi:     movl    12(%ebp), %eax
        popl    %ebp
        ret
```