INSTITUTO POLITÉCNICO NACIONAL
ESCUELA SUPERIOR DE CÓMPUTO

PRACTICA 10

INTRODUCCIÓN A LOS MICROCONTROLADORES

INTEGRANTES:
HERRERA HERNÁNDEZ ANGEL SALVADOR
LÓPEZ ROJAS GUILLERMO EDER
MATA CORTÉS VALERIA
GRUPO: 3CM6
PROFESOR: PÉREZ PÉREZ JOSÉ JUAN

1 | DESARROLLO

2 | CÓDIGO

```
.include"m8535def.inc"
.def aux = r16
.def aux2 = r17
.equ  step1 = 8
.equ  step2 = 4
.equ  step3 = 2
.equ  step4 = 1
        rjmp main
        rjmp secuencia2
config_io:
        ldi aux,$0f
        out     DDRC,aux
        ldi aux,0b11111011
        out DDRD,aux
        ldi aux,4
        out     PORTD,aux
        ldi aux,2
        out MCUCR,aux
        ldi aux,0b0100_0000
        out GICR,aux
        sei
        ret
retardo:
        clr aux
        clr aux2
loop:
        dec aux
        brne loop
        dec aux2
        brne loop
        ret
secuencia1:
        ldi aux,step1
        out     PORTC,aux
        rcall retardo
        ldi aux,step2
```

```
        ldi aux,step2
        out     PORTC,aux
        rcall retardo
        ldi aux,step3
        out     PORTC,aux
        rcall retardo
        ldi aux,step4
        out     PORTC,aux
        rcall retardo
        ret
secuencia2:
        ldi aux,step4
        out     PORTC,aux
        rcall retardo
        ldi aux,step3
        out     PORTC,aux
        rcall retardo
        ldi aux,step2
        out     PORTC,aux
        rcall retardo
        ldi aux,step1
        out     PORTC,aux
        rcall retardo
        reti
main:
        ldi aux,low(RAMEND)
        out spl, aux
        ldi aux,high(RAMEND)
        out sph,aux
        rcall config_io
while:
        rcall secuencia1
        rjmp while
```

3 | CONCLUSIONES